

**A STUDY OF  
THE TECHNOLOGY OF RENAISSANCE  
BRONZE STATUETTES**

**BY**

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**VOLUME II**

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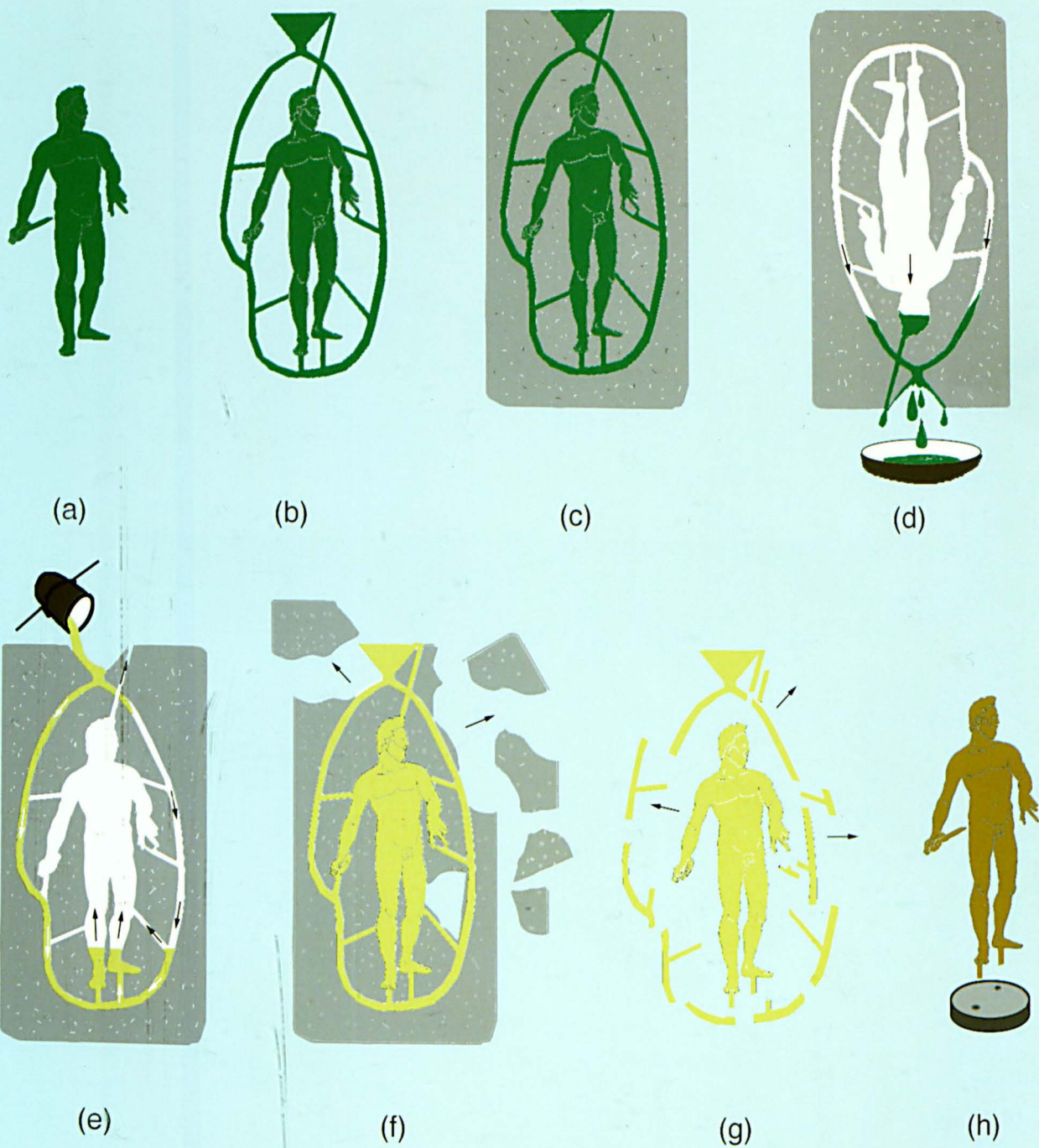


Plate 1. Diagram of the lost-wax casting process.



Plate 2. Experimental casting of *Mars*: photographs of the plaster piece-mould of the arm.



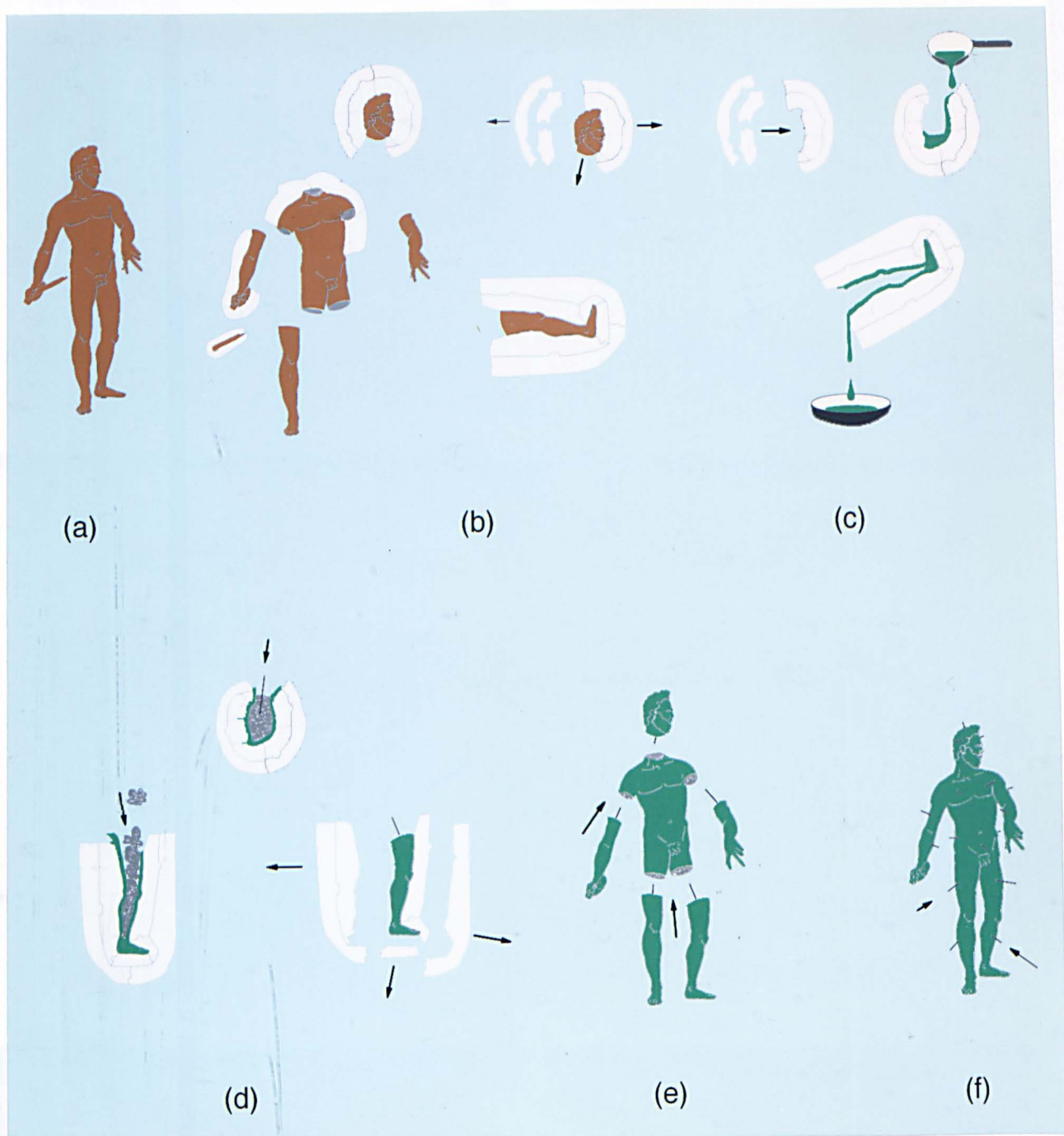


Plate 3. Diagram of the indirect lost wax casting process: slush molding.



Plate 4. Experimental casting of *Mars*: (top left, right and bottom left) photograph of slush molding lost wax process; (bottom right) photograph of inside of rubber mould of the head showing how the wax builds up more quickly in recesses than on high points.





Plate 5. Experimental casting of *Mars*: (top left) photo showing the insertion of an internal core support in the cored wax part; (top right and bottom left) joining of the wax parts with care; (bottom right) terracotta model of the *Rape of the Sabines*, attributed to Gaetano Lici after Giambologna in model collection of the Doccia porcelain manufacturing company (after Lankheit, 1982).



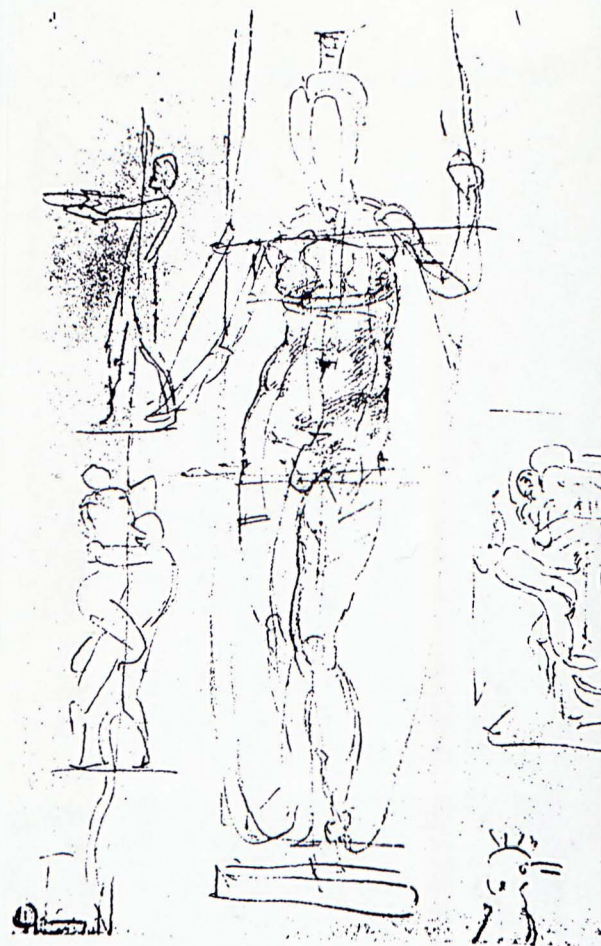
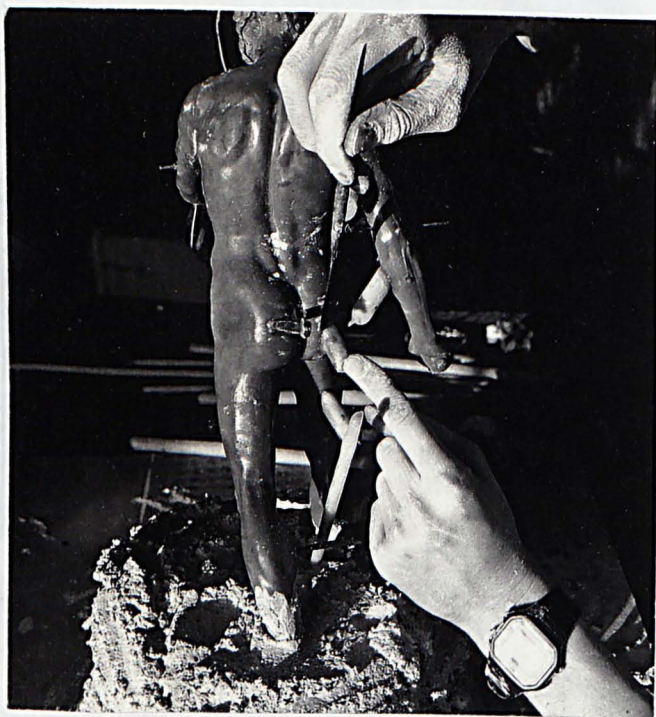
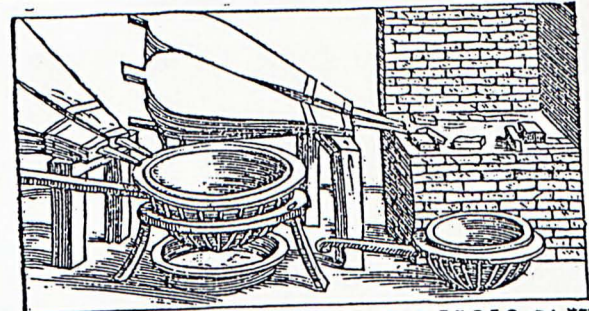


Plate 6. (Top left) Experimental casting of *Mars*: showing the attaching of the wax sprues; (top right) Sketch of sprued figure attributed to follower of Michelangelo Buonarroti's (Casa Buonarroti, Florence after Weihrach, 1967); experimental casting of *Mars*: (bottom left) photograph showing the application the first layer of investment to the sprued wax; (bottom right) photograph showing the building up of the refractory mould.

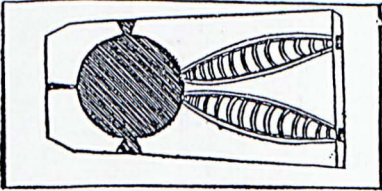




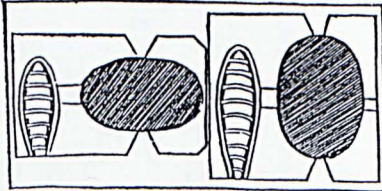
EL MODO DEL FONDERE A CROCILO, CA. III.

LIBRO SETTIMO

raffe, & fiamme al fuoco del metallo, & anchora che le fusero dilu-  
ate all'entrar dentro farli di modo che le si congiugnessero & diven-  
tassero vna. Per che lo fece si conuerso a' ostendendone & impedi-  
rento il corso del batter el bronzo, cacciando l'una & l'altra, & accioche  
fillo che lo vi narro meglio cõprehendiate vi mostraro qui appresso di  
legnao el fondo del forno com'lo (e l'haueua far) di farli.



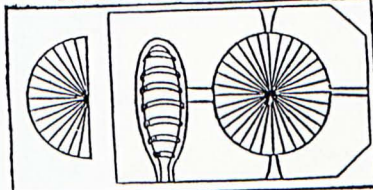
Non voglio anchora passar senza dirvi qualche cosa di qlli che fanno le  
loro fornaci a' quare p' trauero dell'entrata del fuoco per mouerli da  
vna ragione che dicono che da l'entrata al fuoco della spina e' certo spa-  
to & largo, p'che auati c'bi le fiamme ech'ino p' le fenestre h'ano multa  
ro sopra al brizzo d'ogni b'ada due volte cõc el disegno si dimostra.



Quelli che h'ano oppenione che meglio sia a' ouerli p' lo lungo si mo-  
uono forse anchora da meglio ragione con dir che il forno cõdene in tal  
forma p'la d'la fiamme vnto & nō roue sopra al brizzo & in loro me-  
d'ime, & che doue il fuoco la maggior g'ita li fanno le sue forze, &  
volendo maneggiar el brizzo d'cto a tal fornace p'la facilitate si m'agea.

DI FONDERE A CATINO

104



Quelli che steno nella forma tonda aducano due ragione potissime  
l'una che cõfiongo tempo si fanno vnti & loro gli trauano che a quel  
che vogliono fare la spertata lo ferue. Dipoi vna ragione o'ra alle aia e  
credo che vi sia che nel circolo tutte le linee tendono ad vno centro, &  
che non s'alteri facc el fuoco rinchiuso in quella cõcaua che il sole  
in vno specchio cõcauo dal qual vediamo accender el fuoco, & nō in  
n'una altra forma, & questo e' questo nella diuersa de' forni ho trouato.  
Hora in qual di quelli che vi venga bene d'usar vnti mette al suo fuoco  
el brizzo che volete suspeso dal fondo vn g'ito di braccio sopra a pezzi  
di matoni o pezzi di bronzo & sinforma largo, accioche le fiamme p'  
tutto l'abracino, & dipoi per lo aducano con legna secche se li da fuo-  
cho tanto che benissimo tutto si liquefacci, & dipoi quando e' bene fuso  
apprenda la spina l'ita per canale esser nelle forme & d'cto s'emple  
ogni lor vaso come al suo fuoco propeto l'ordine spono largamen-  
te vi dimostraro.

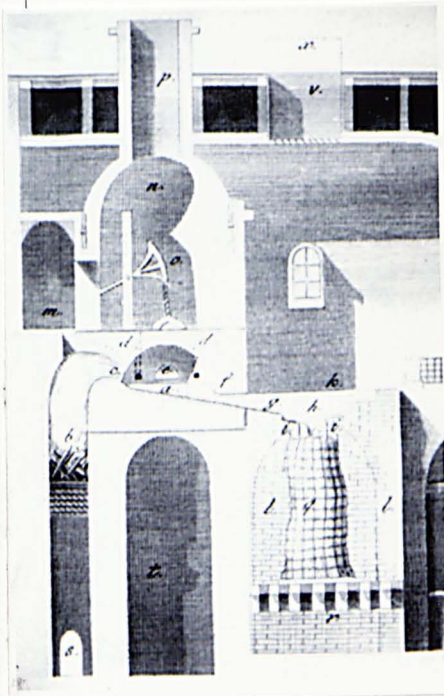
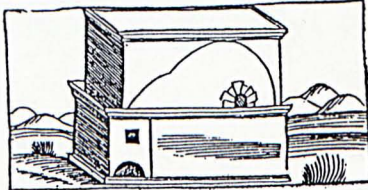


Plate 7. (Top left) A bell and cannon foundry, woodblock by D. Beccafumi (1486-1551) (after Karpinski, 1960); (top right) experimental casting of Mars: photograph of founders pouring the molten bronze into a mould with a crucible; (center) crucibles, woodblock from V. Biringucci's *De la pirotechnia* (1540) (after Biringucci, 1977); bottom left) diagram of reverberatory furnaces, woodblock from Vannoccio Biringucci's *De la pirotechnia* (1540) (after Biringucci, 1977); (bottom right) diagram showing a cross section of the furnace and casting pit for colossal sculpture (after Chekalevsky, 1810).



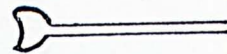


Plate 8. Experimental casting of *Mars*: fettling: (top left) sawing off sprues, (top right) removing core pins, (bottom left) chiseling flashes; (bottom right) sketch of a scratch brush and scraper by Leonardo da Vinci (*Codice Trivulzio*, fol. 17a, after Leonardo, 1939).

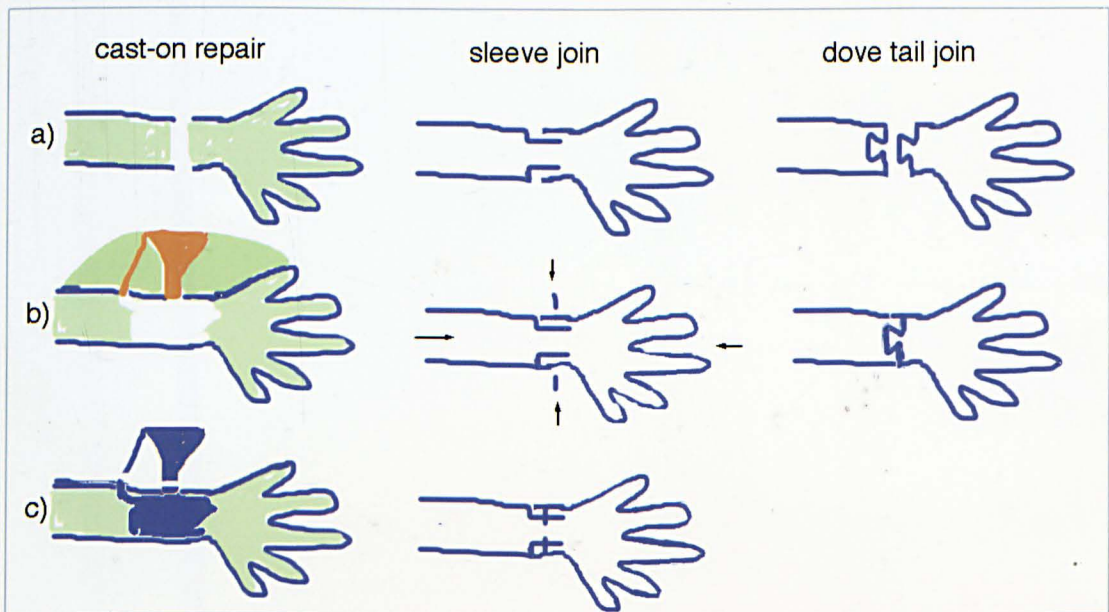
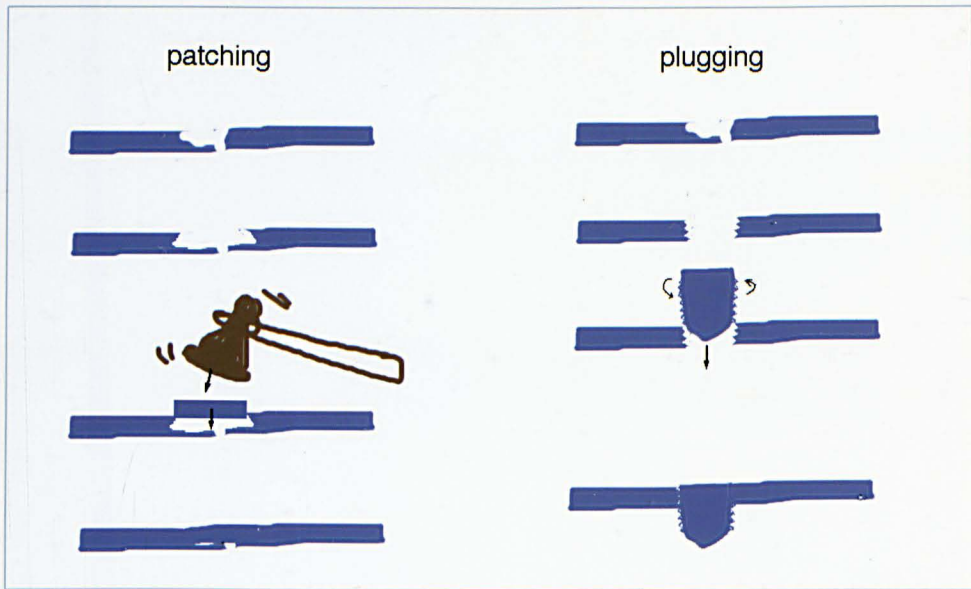
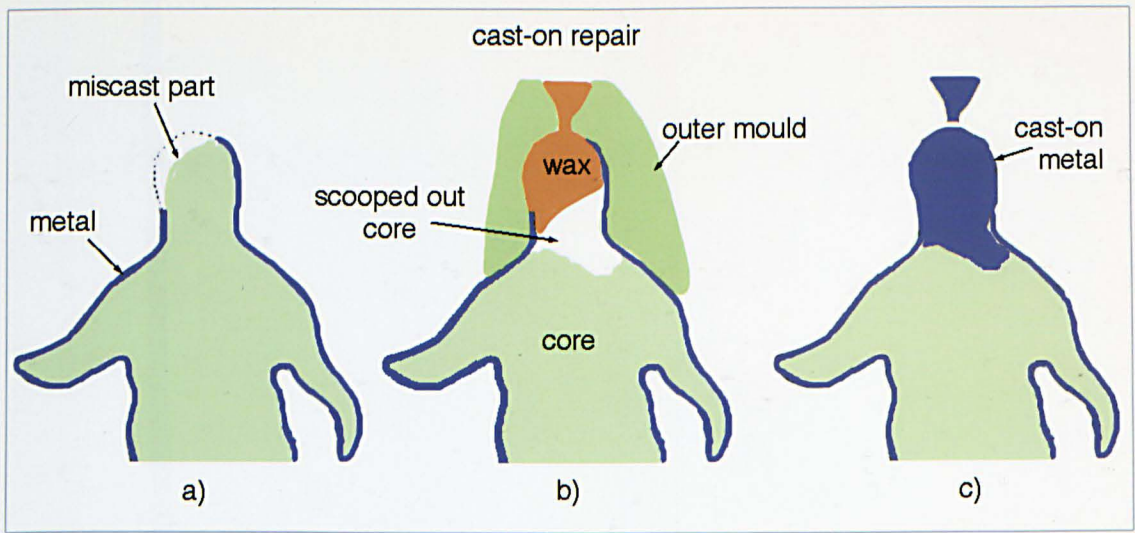


Plate 9. (Top) Diagram of cast-on repair; (center) diagram of patching and plugging; (bottom) diagram of metal-to-metal joining methods (cast-on, sleeve, dovetail).



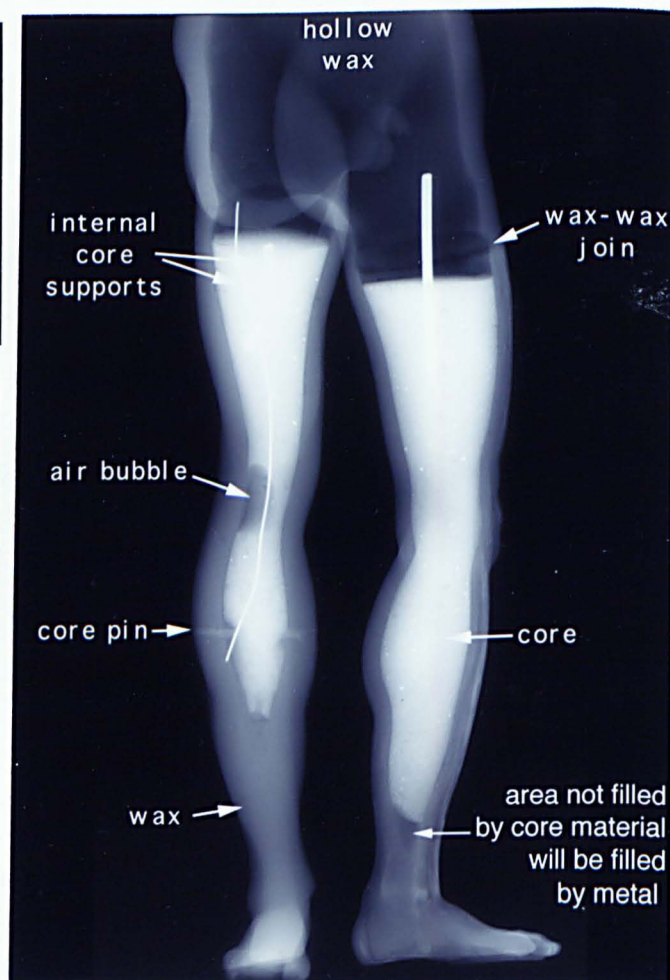
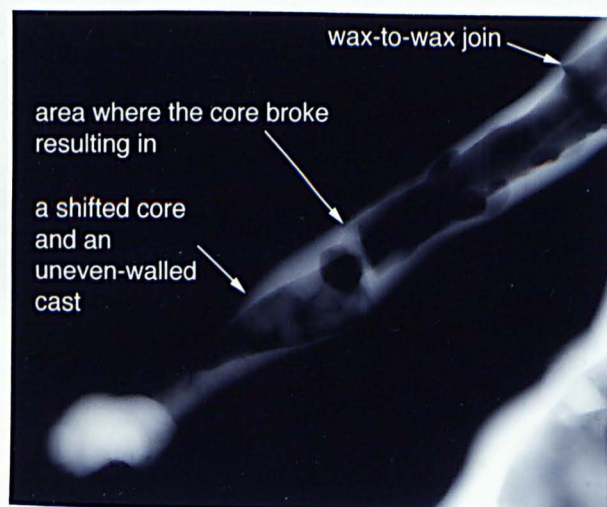
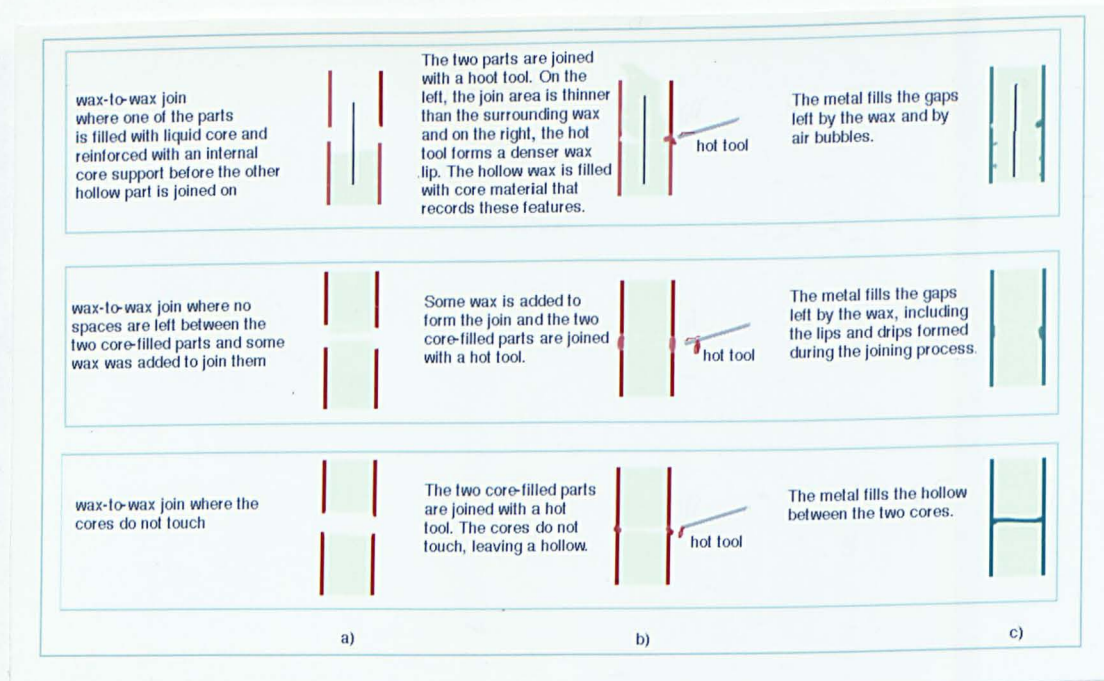


Plate 10. (Top) Diagram of joins of hollow wax parts with cores inside ; experimental casting of *Mars*: (center left) radiograph of cored wax parts showing shrinkage fissures in the core; (bottom left) radiograph of the cast bronze figure showing the broken core in the arm; (bottom right) annotated radiograph of the legs of the partially reconstructed wax figure.



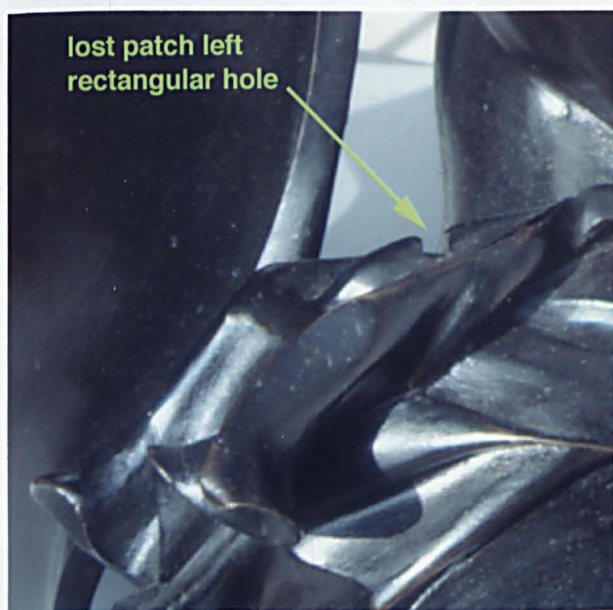
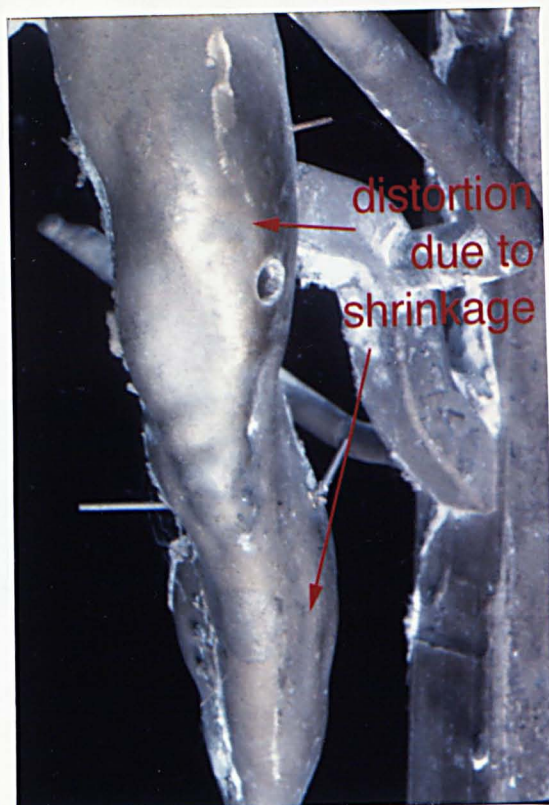
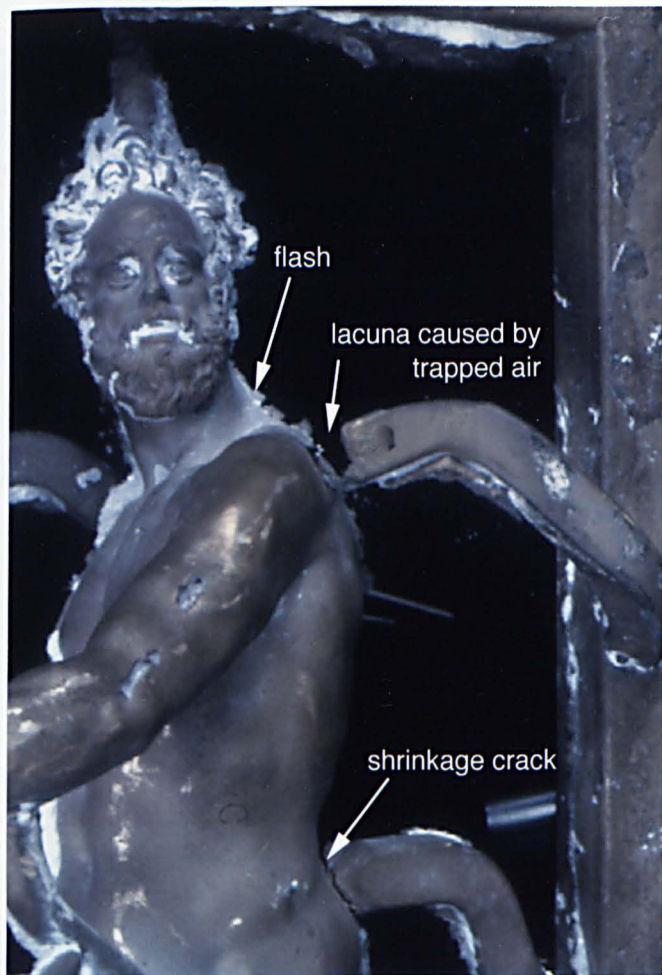


Plate 11. (Top left) Experimental casting of *Mars*: annotated detail of unfettled bronze cast of the figure showing the hole at the join of the shoulder and the sprue; (top right) experimental casting of *Mars*: detail showing distortion due to shrinkage of the metal; (bottom left) *Putto with Shield on Right*, F. Tacca (J. Paul Getty Museum, 85.SB.70.2), annotated detail of drapery; (bottom right) inner surface of sand cast sculpture (after Beale, 1975).



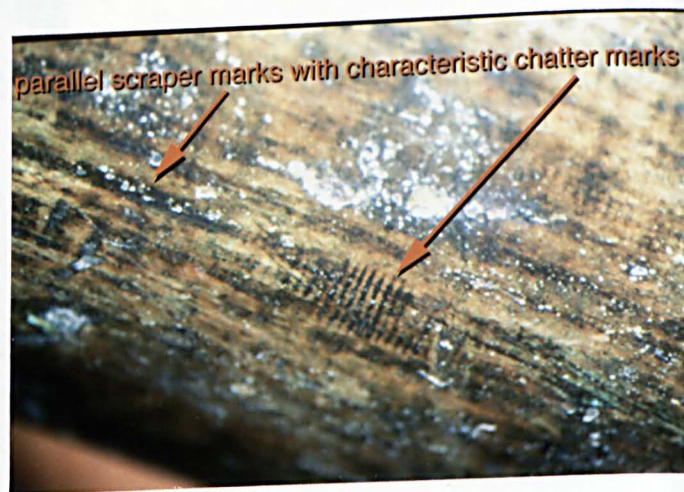
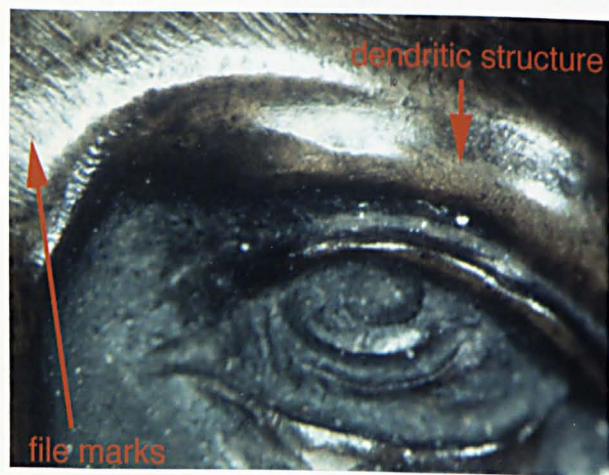
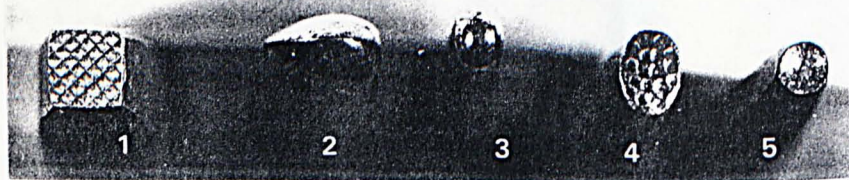
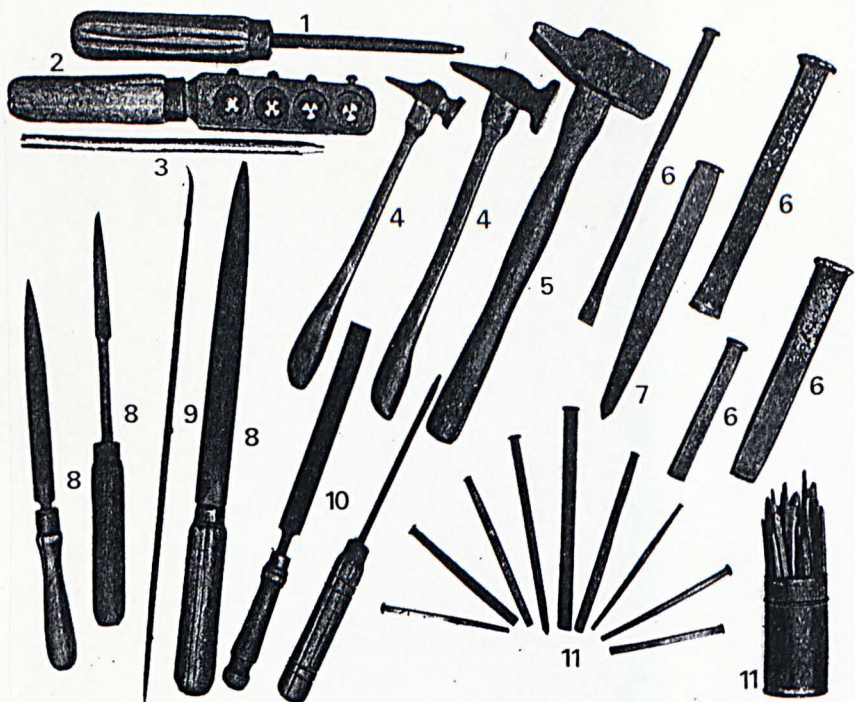


Plate 12. (Top left) Chasing tools (after Ministère de la Culture et Communication, 1978); (bottom left) *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32) detail of punch marks on the gilt base; (bottom right) *Mercury* attributed to J. G. v. der Schardt (J. Paul Getty Museum, 95.SB.8) detail of scraper marks; *Venus with Apple*, Ciechanowievski Master, (Huntington Art Galleries, 17.24), annotated detail of left eye.



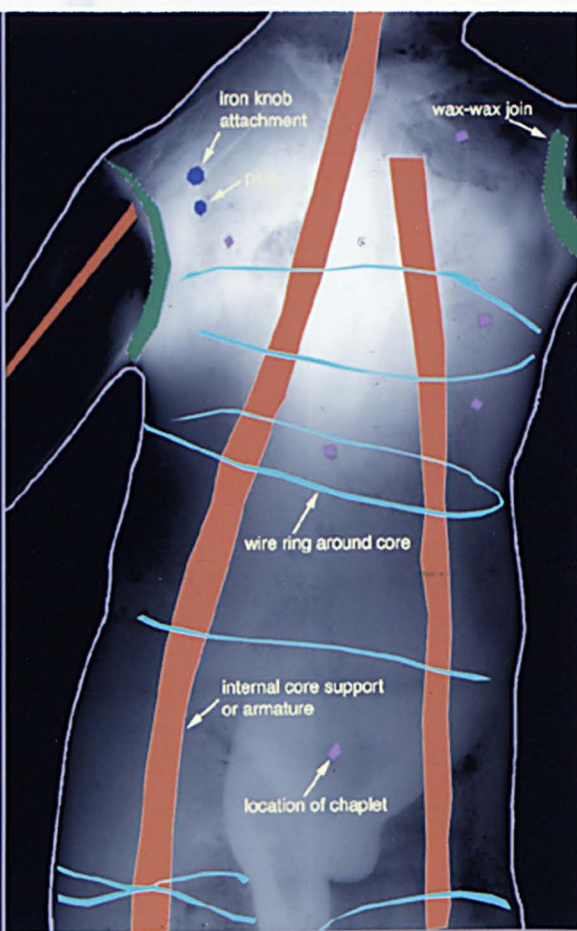
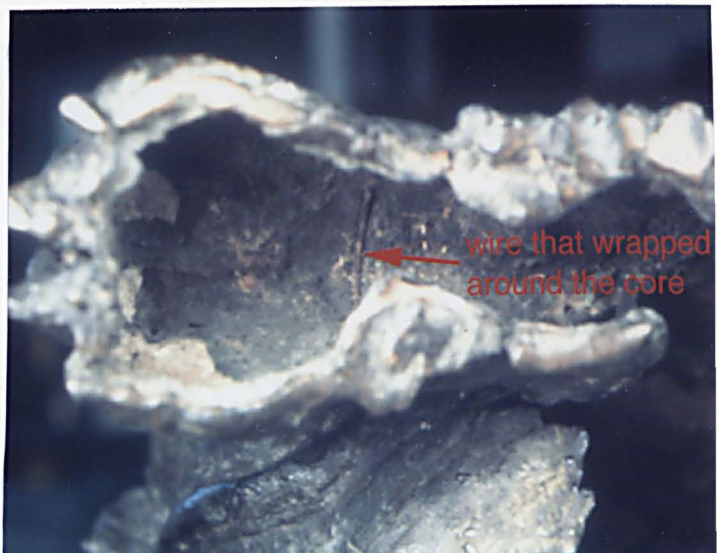
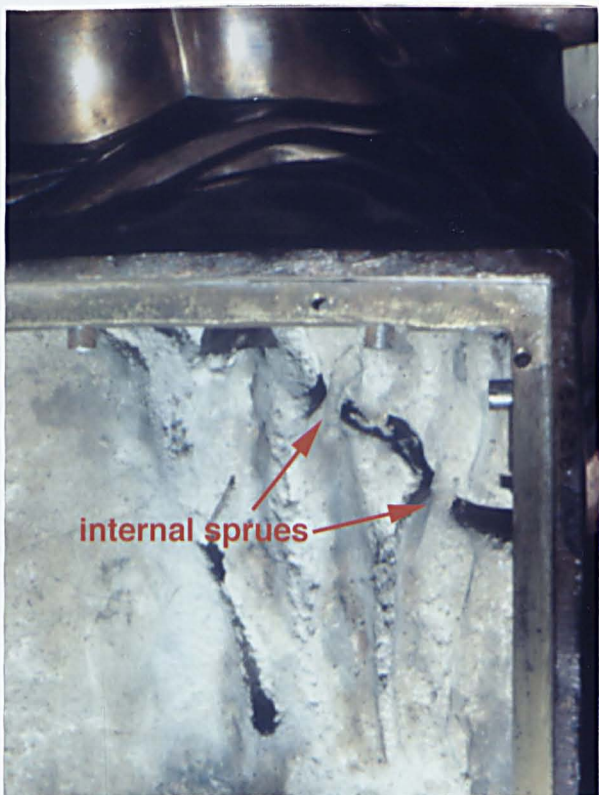


Plate 13. (Top left) *Laocoon*, attributed to G. B. Foggini (J. Paul Getty Museum, 85.SB.413), annotated detail of inner surface; (top right) unknown artist, Italian, 16th c., *Sphinx with volute scrolls* (J. Paul Getty Museum, 85.SB.418 ?), annotated detail of inner surface of paw; (bottom left and right) *Infant Christ*, attributed to G. Campagna (J. Paul Getty Museum, 86.SB.734), plain and annotated digitized radiograph of torso.



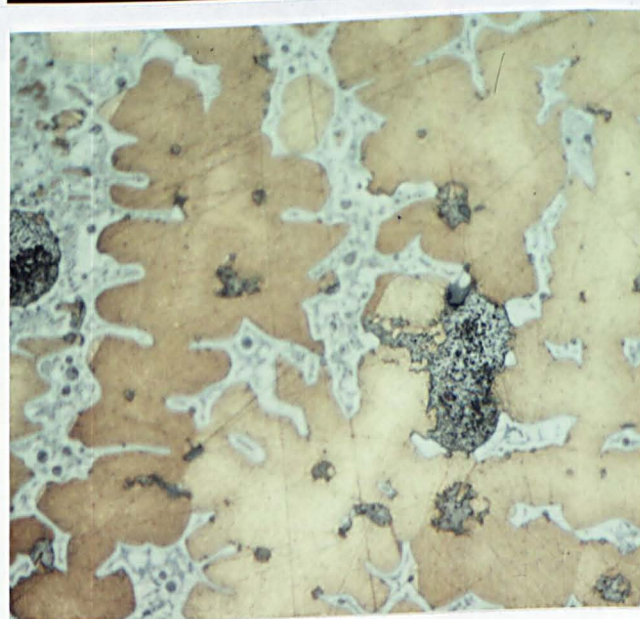
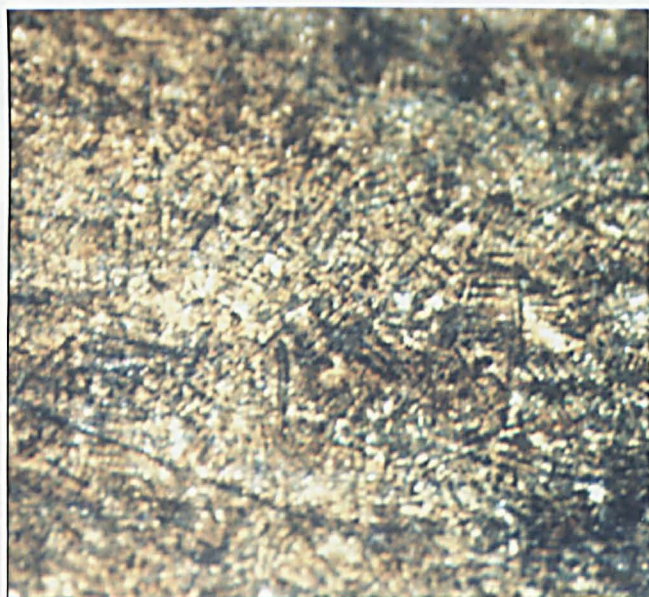
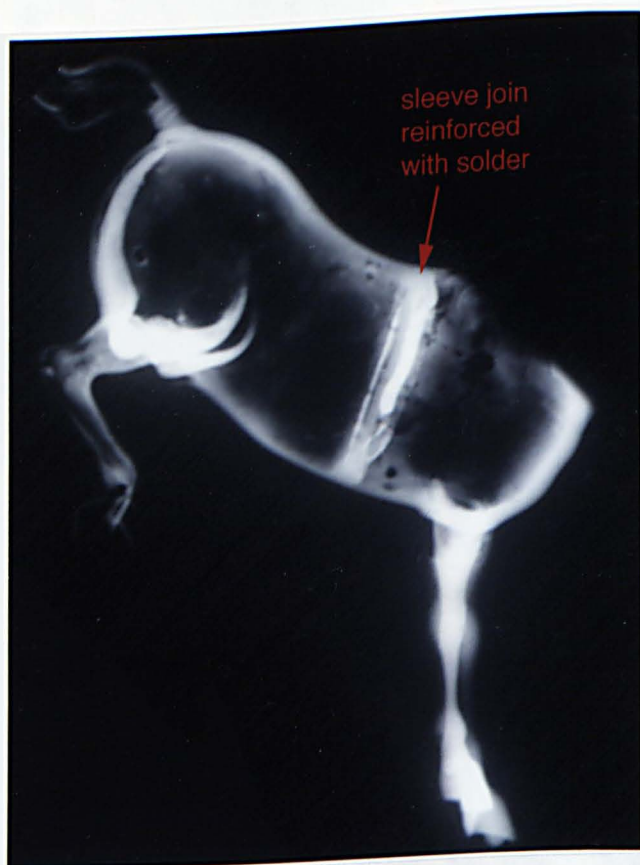


Plate 14. (Top left and right) *Kicking Horse*, attributed to C. Gras (J. Paul Getty Museum, 85.SB.72) photograph of sculpture and annotated digitized radiograph; (bottom left) *Mercury* attributed to J. G. v. der Schardt (J. Paul Getty Museum, 95.SB.8) detail photomicrograph of the dendritic structure of the metal; (bottom right) photomicrograph of a metallographic section showing the dendritic structure of a cast copper-tin-lead alloy.



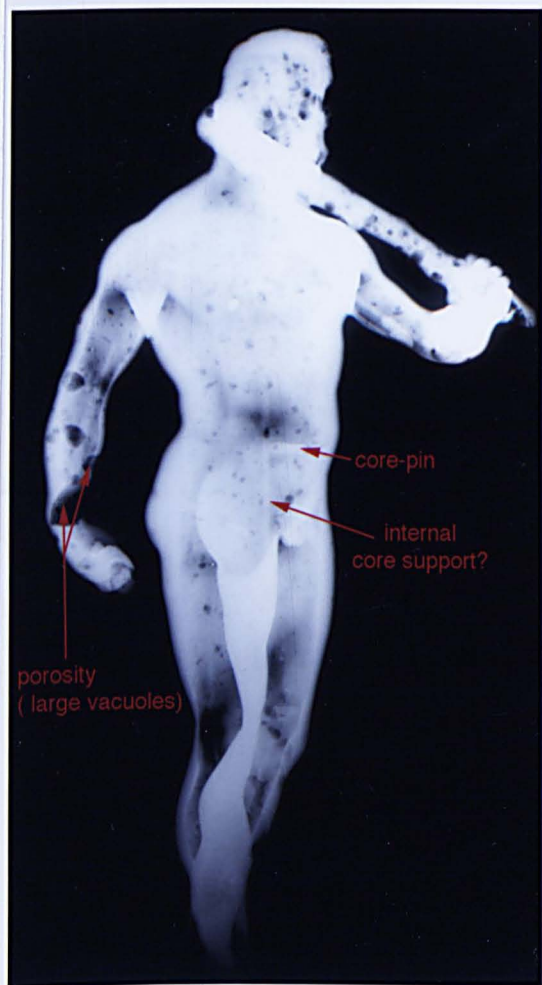


Plate 15. *Hercules Pomarius*, attributed to B. Bandinelli (Huntington Art Galleries, 227.177) (top left and right) photographs of sculpture; (bottom left and right) annotated digitized radiographs.



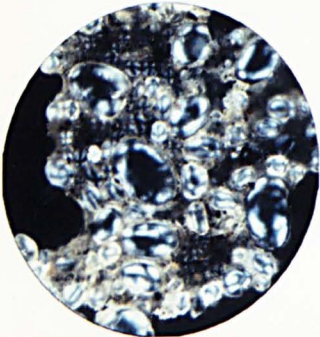


Plate 16. *Nessus and Dejanira*, Giambologna (Huntington Art Galleries, 17.13) (top left and right) photographs of sculpture; (center left) photomicrograph of polished and etched metallographic section of the pin removed from the break in Nessus' leg; (bottom left) photomicrograph of starch globules from waxy surface accretion under polarized light; (bottom right) detail of underside of base.



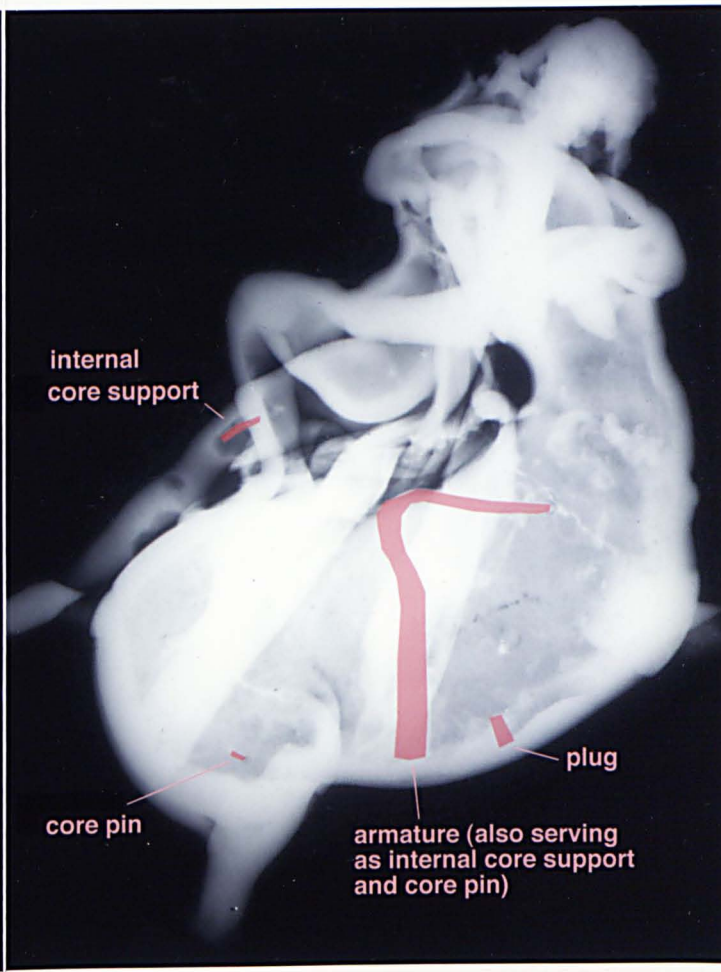
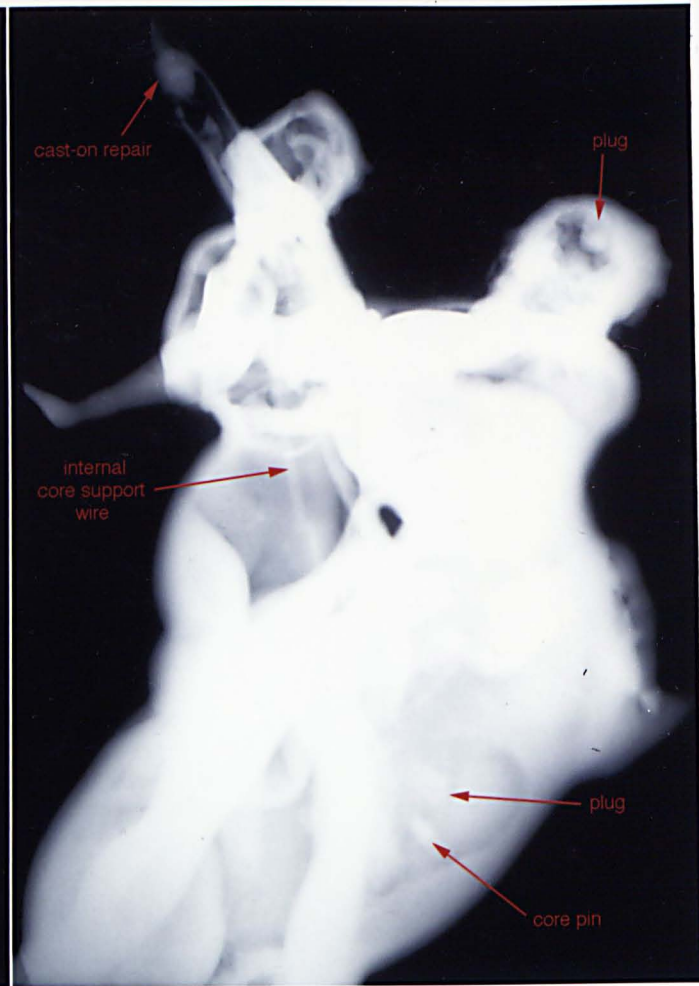
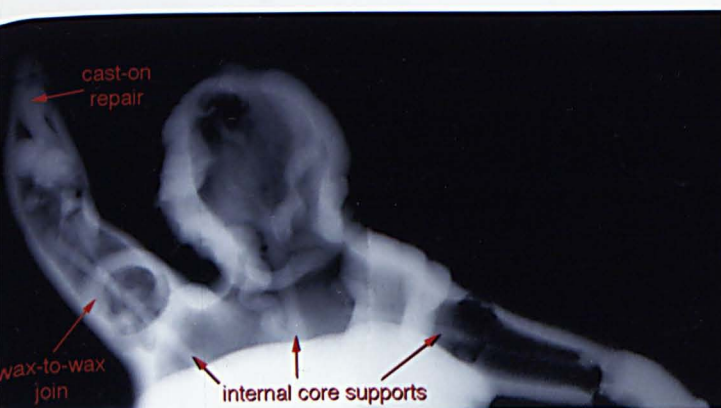


Plate 17. *Nessus and Dejanira*, Giambologna (Huntington Art Galleries, 17.13) (top left) detail of signature; (center left, top right, bottom left and right) annotated digitized radiographs.



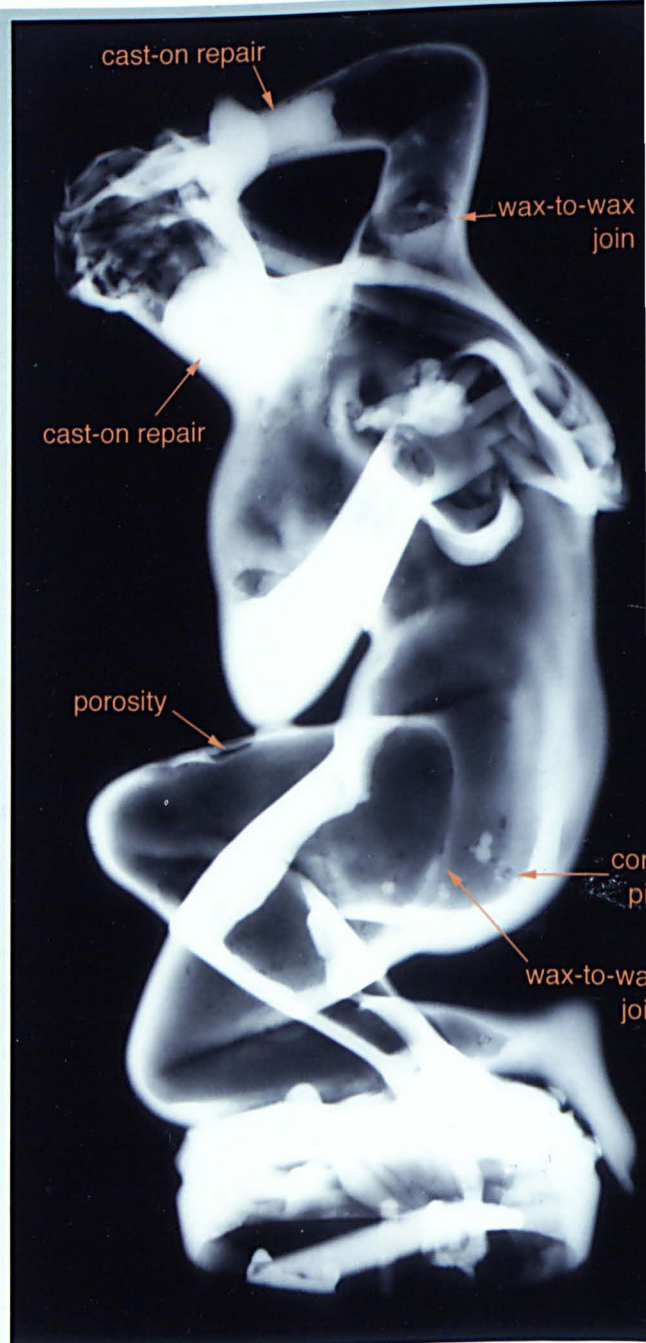


Plate 18. *Crouching Venus*, after Giambologna (Huntington Art Galleries, 27.174) (left) photograph of sculpture; (right) annotated digitized radiograph.



Plate 19. *Crouching Venus*, after Giambologna (Huntington Art Galleries, 27.174) annotated digitized radiographs.



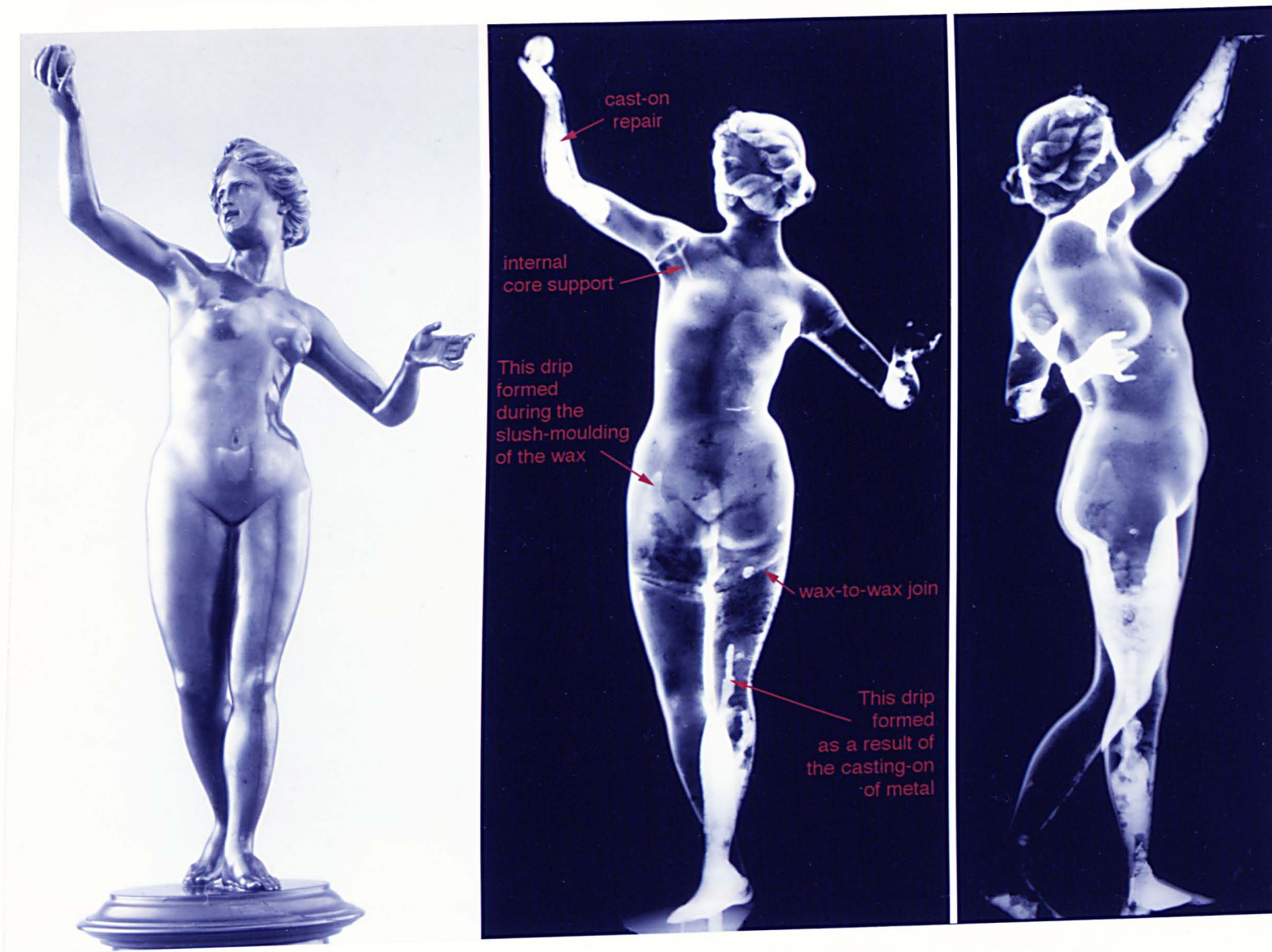


Plate 20. *Venus with Apple*, Ciechanowiecki Master, (Huntington Art Galleries, 17.24) (left) photograph of sculpture; (center and right) annotated digitized radiographs



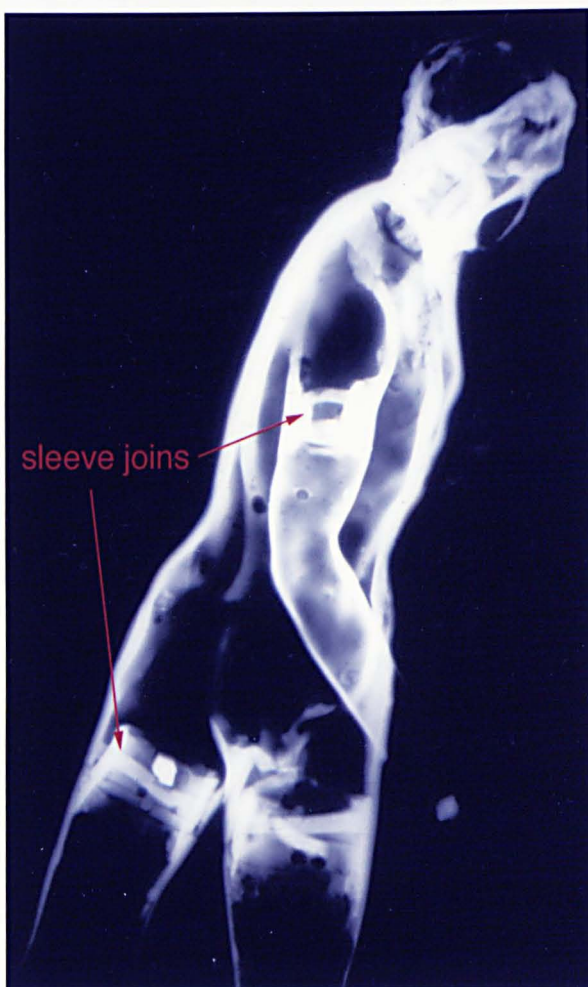
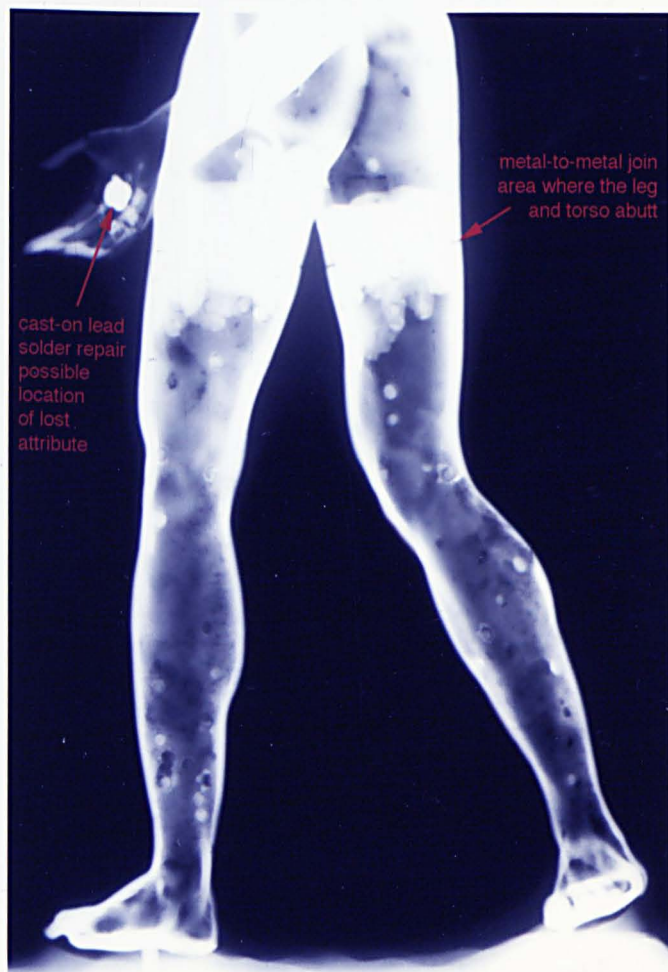
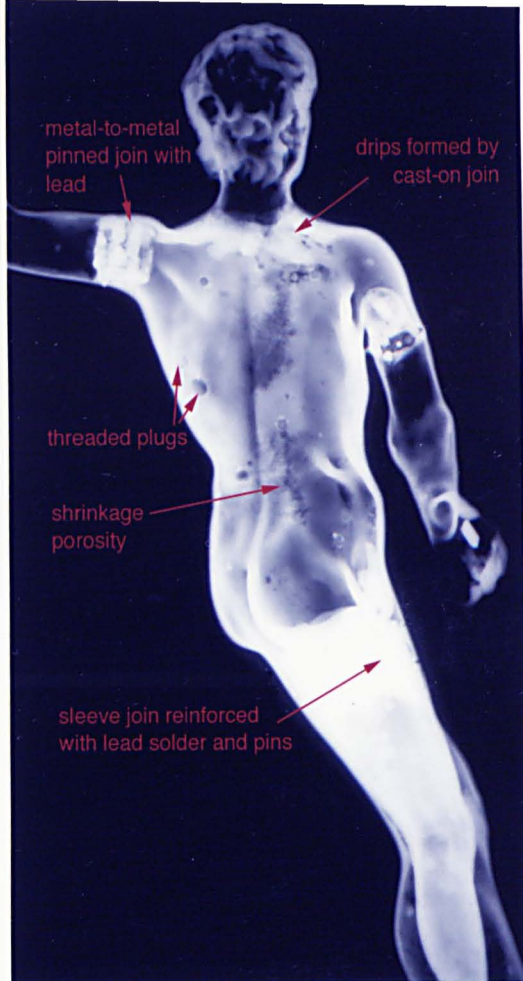
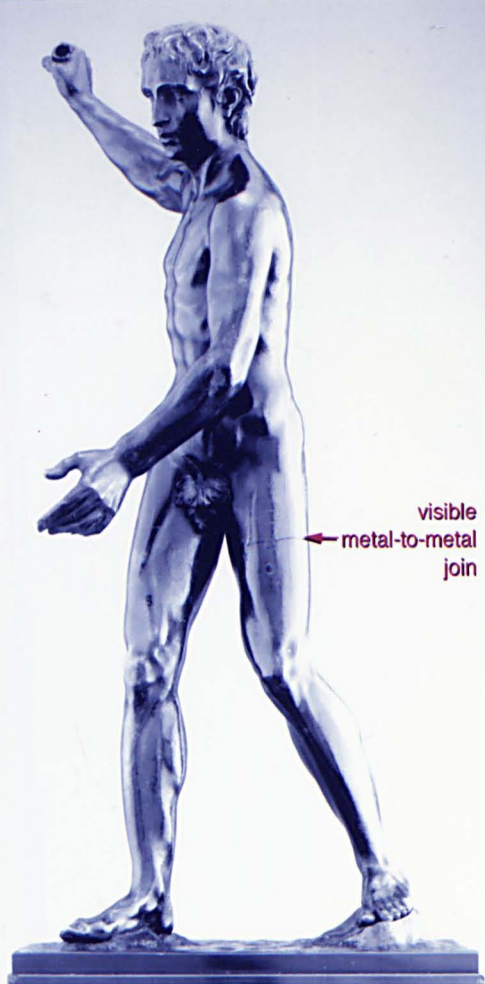


Plate 21. *Nude Male*, unknown artist Italian 17th c.? (Huntington Art Galleries, 17.9) (top left) photograph of sculpture; (top right, bottom left and right) annotated digitized radiographs.



seams left over  
from piece-mould

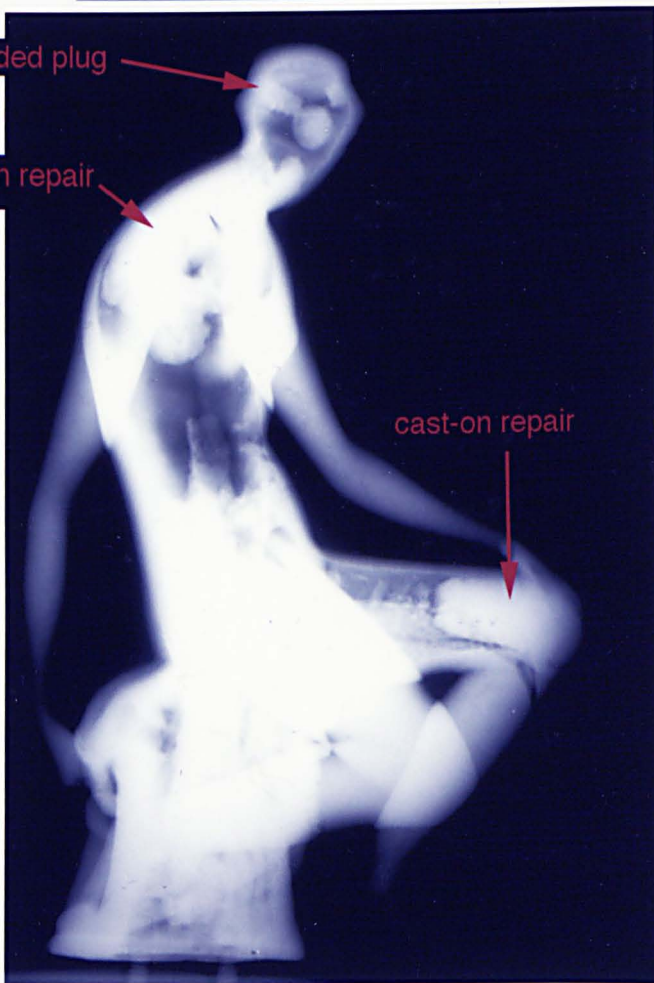
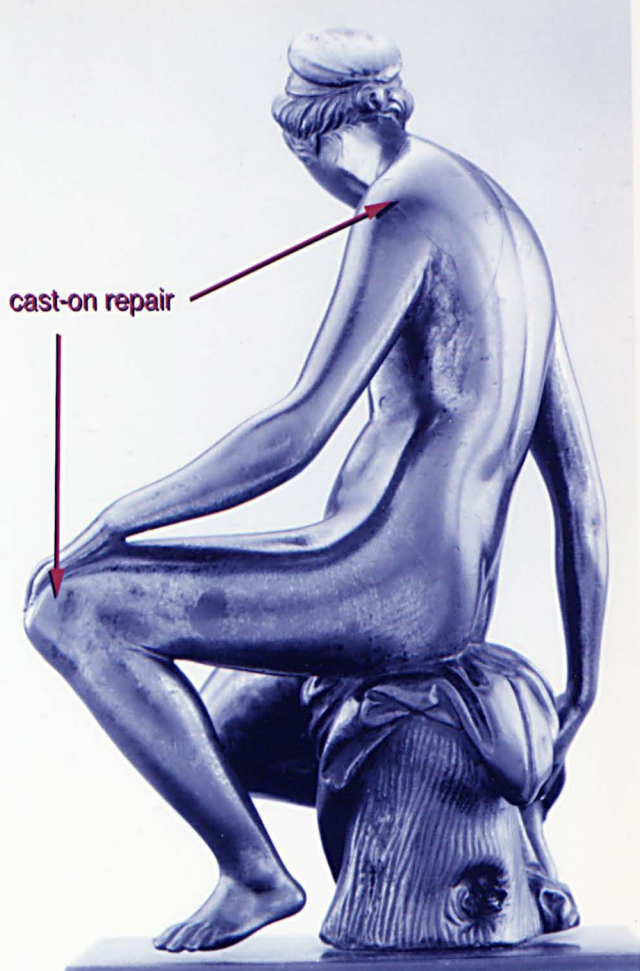


the heel  
blends  
into the  
foot



Plate 22. *Woman Combing her Hair*, attributed to B. Prieur (Huntington Art Galleries, 17.18) (top left) annotated photograph of sculpture; (top right) annotated detail of crown of head; (bottom left and right) digitized radiographs.





late 23. *Woman Touching her Foot*, attributed to B. Prieur (Huntington Art Galleries, 17.17) (top left and right) annotated photographs of sculpture; (bottom left and right) annotated digitized radiographs.



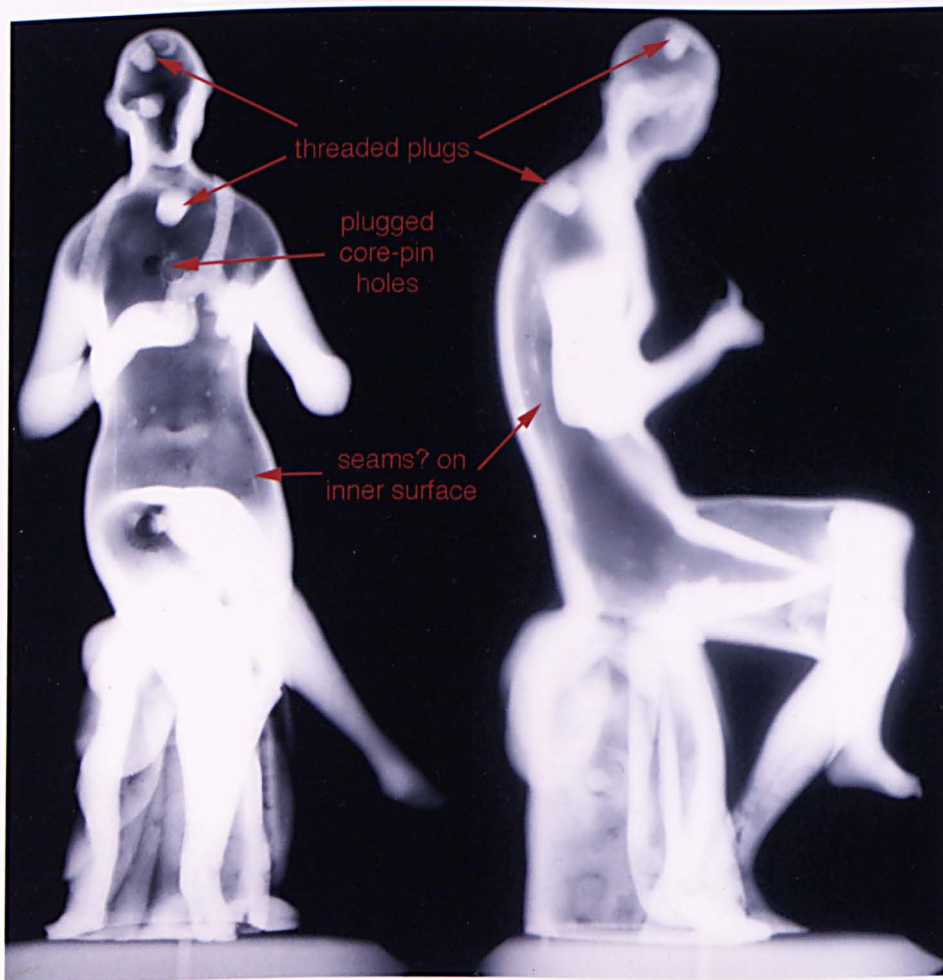


Plate 24. *Woman Braiding her Hair*, attributed to B. Prieur (Huntington Art Galleries, 17.16) (top) photograph of sculpture; (bottom left and right) annotated digitized radiographs.



Plate 25. *Woman Washing her Foot*, attributed to B. Prieur (Huntington Art Galleries, 17.15) (top) photograph of sculpture; (bottom left and right) annotated digitized radiographs.





Plate 26. *Man Carrying Child*, attributed to B. Prieur (Huntington Art Galleries, 17.8) (top) photograph of sculpture; (bottom left and right) digitized radiographs.

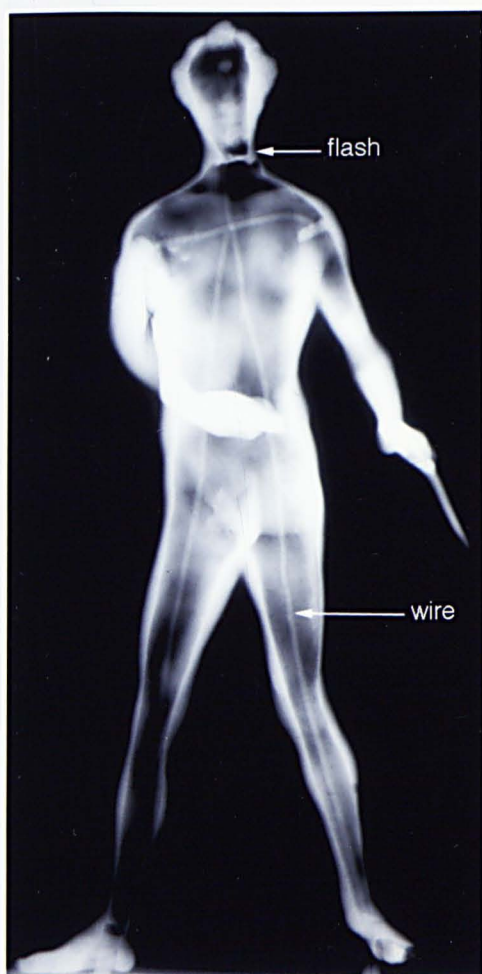
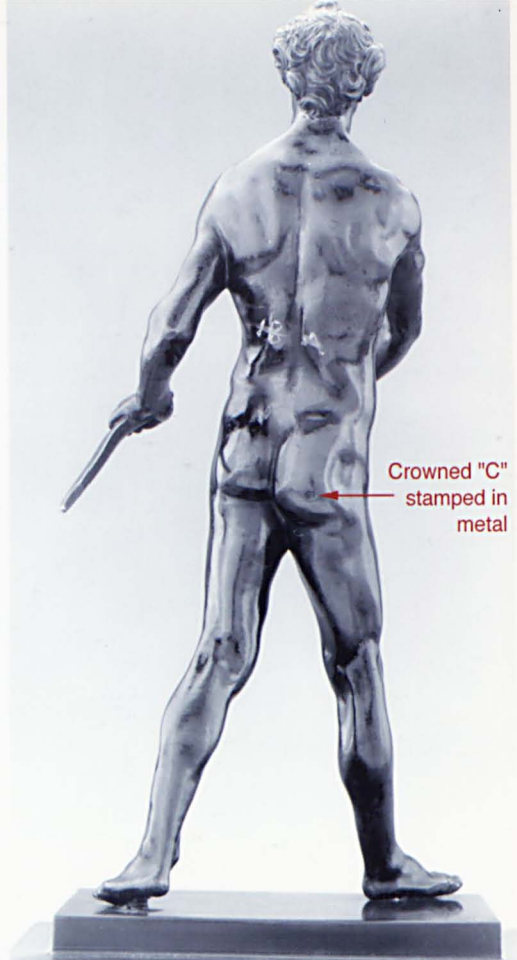


Plate 27. *Man with Sword*, attributed to B. Prieur (Huntington Art Galleries, 17.7) (top left and right) annotated photographs of sculpture; (bottom left) annotated digitized radiograph; (bottom right) detail of the crowned "C".



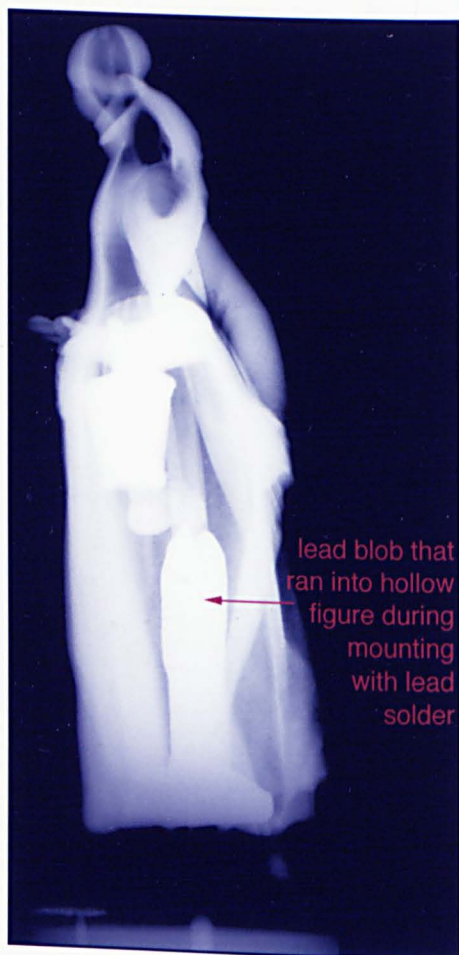


Plate 28. *Woman Returning from Market*, attributed to B. Prieur (Huntington Art Galleries, 17.20) (top) photograph of sculpture; (bottom left and right) annotated digitized radiographs.





Plate 29. *Woman Combing her Hair*, attributed to B. Prieur (Huntington Art Galleries, 17.19) (top left and right) annotated photographs of sculpture; (bottom left) annotated digitized radiograph; (bottom right) detail of underside of comb.



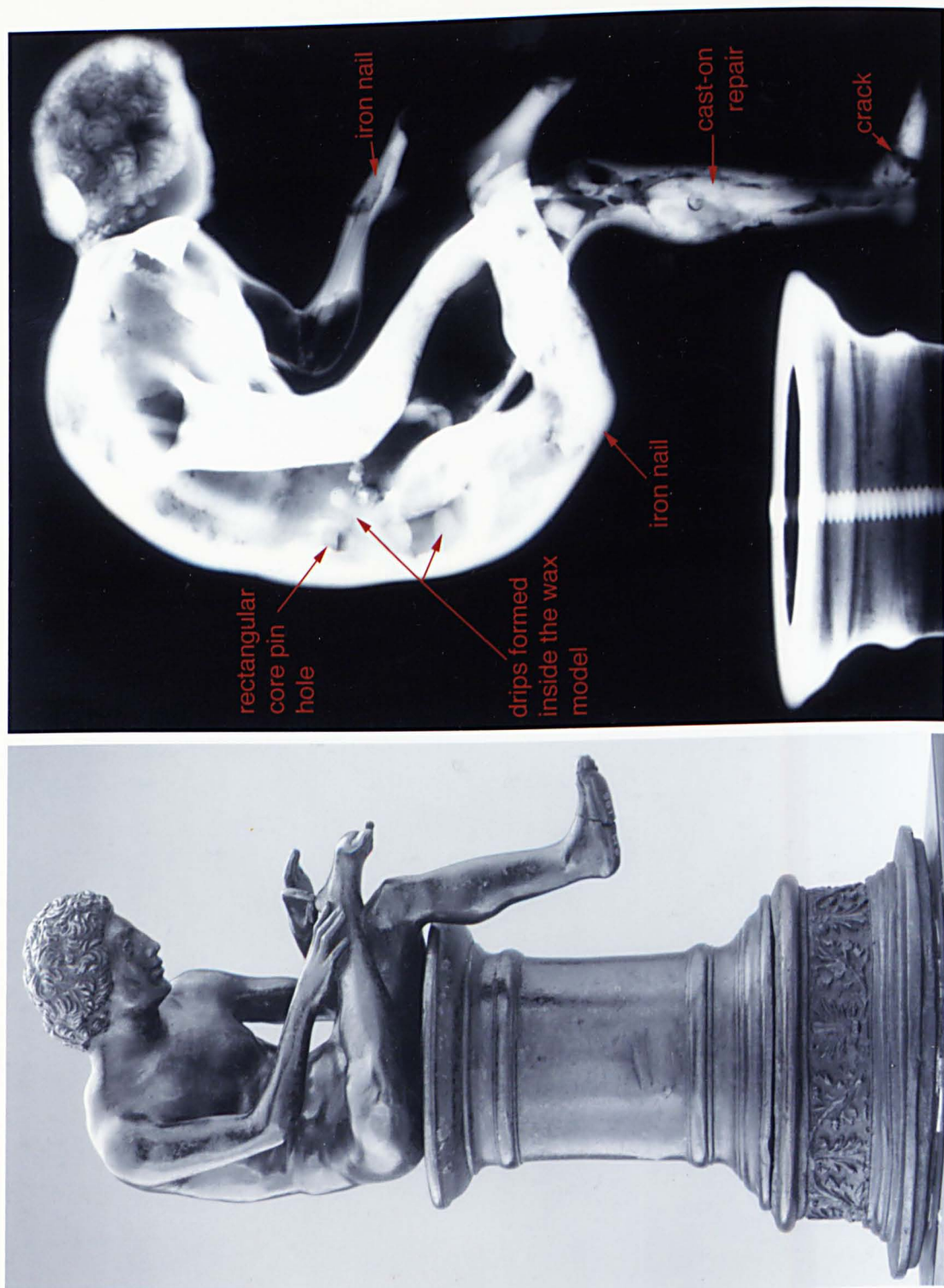


Plate 30. *Spinario*, attributed to Riccio (Huntington Art Galleries, 17.4) (left) photograph of sculpture; (right) annotated digitized radiograph.

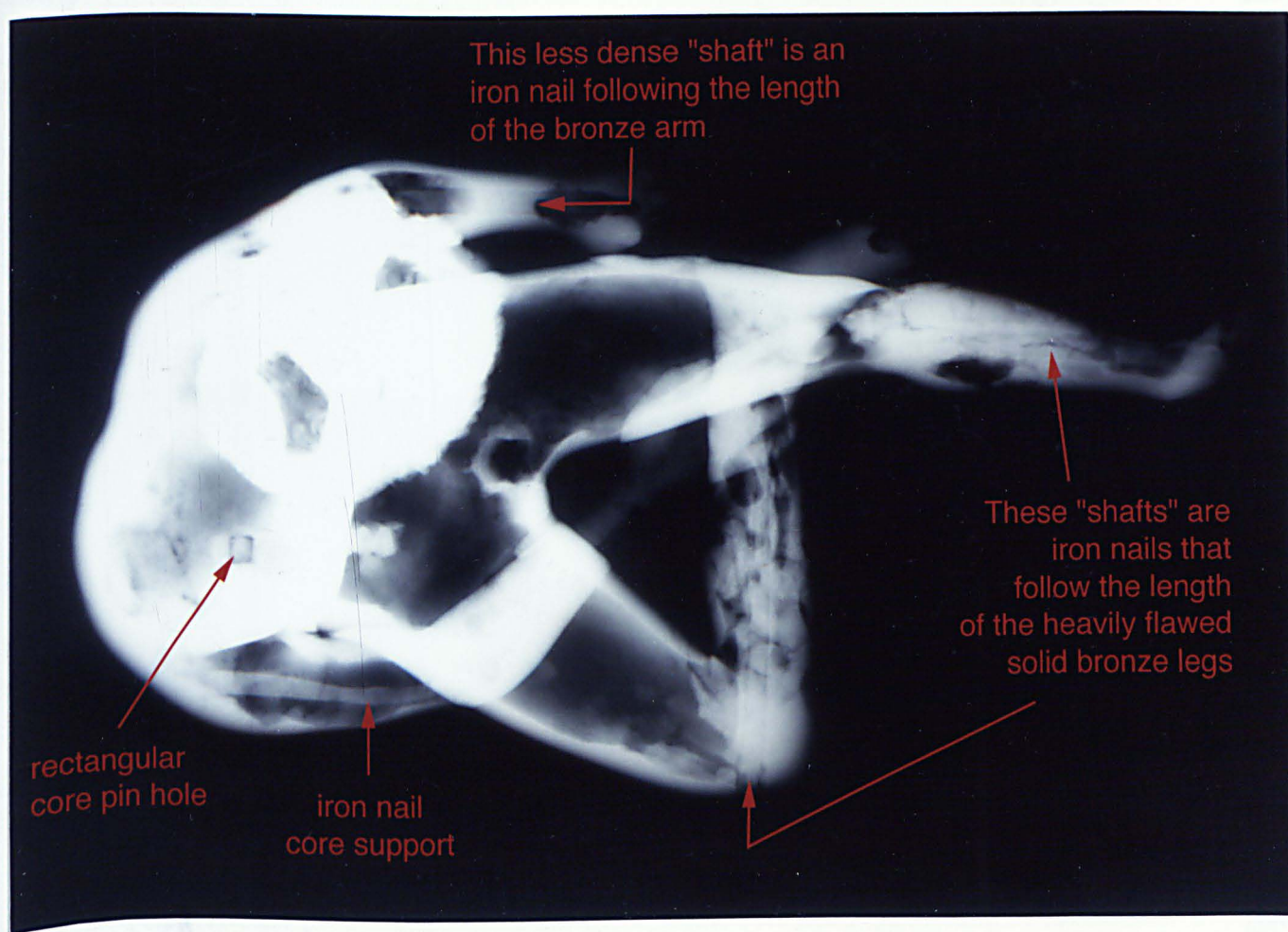


Plate 31. *Spinario*, attributed to Riccio (Huntington Art Galleries, 17.4) (top) detail of left hand; (right) annotated digitized radiograph.





Plate 32. *Venus Drying Herself after the Bath*, Giambologna (Kunsthistorisches Museum, 5874) (left) photograph of sculpture; (center and right) radiographs.



Plate 33. *Venus Drying Herself after the Bath*, after Giambologna (Cleveland Museum of Art, 93.230)  
(left) photograph of sculpture; (right) radiograph.





Plate 34. *Venus Urania* or *Astronomy*, Giambologna (Kunsthistorisches Museum, 5874) (left) frontal view of sculpture; (center) radiograph; (right) rear view of sculpture.







Plate 36. (Left) *Fortuna*, A. Susini after model by Giambologna (Musée du Louvre, OA 10598) photograph of sculpture; (right) *Fortuna*, after Giambologna (private collection) photograph of sculpture.

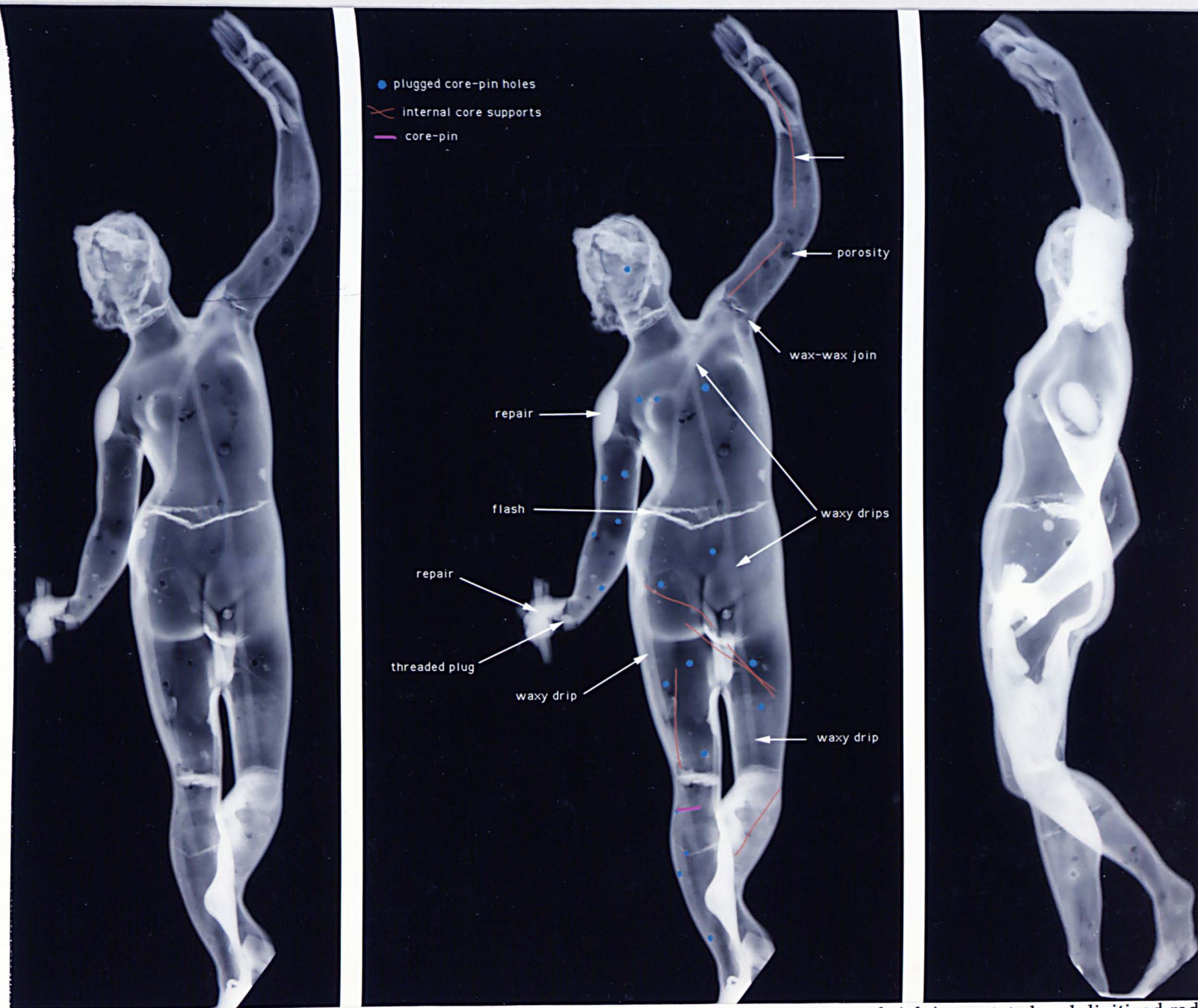


Plate 37. *Fortuna*, A. Susini after model by Giambologna (Musee du Louvre, OA 10598) (left, center and right) annotated and digitized radiographs.





Plate 38. *Fortuna*, A. Susini after model by Giambologna (Metropolitan Museum of Art, 24.212.5)  
(left) photograph of sculpture; (right) annotated digitized radiograph.



Plate 39. (Left) *Fortuna*, A. Susini after model by Giambologna (Metropolitan Museum of Art, 24.212.5) digitized radiograph; (right) *Venus Marina*, Venetian? (Kunsthistorisches Museum, 5885) annotated digitized radiograph.



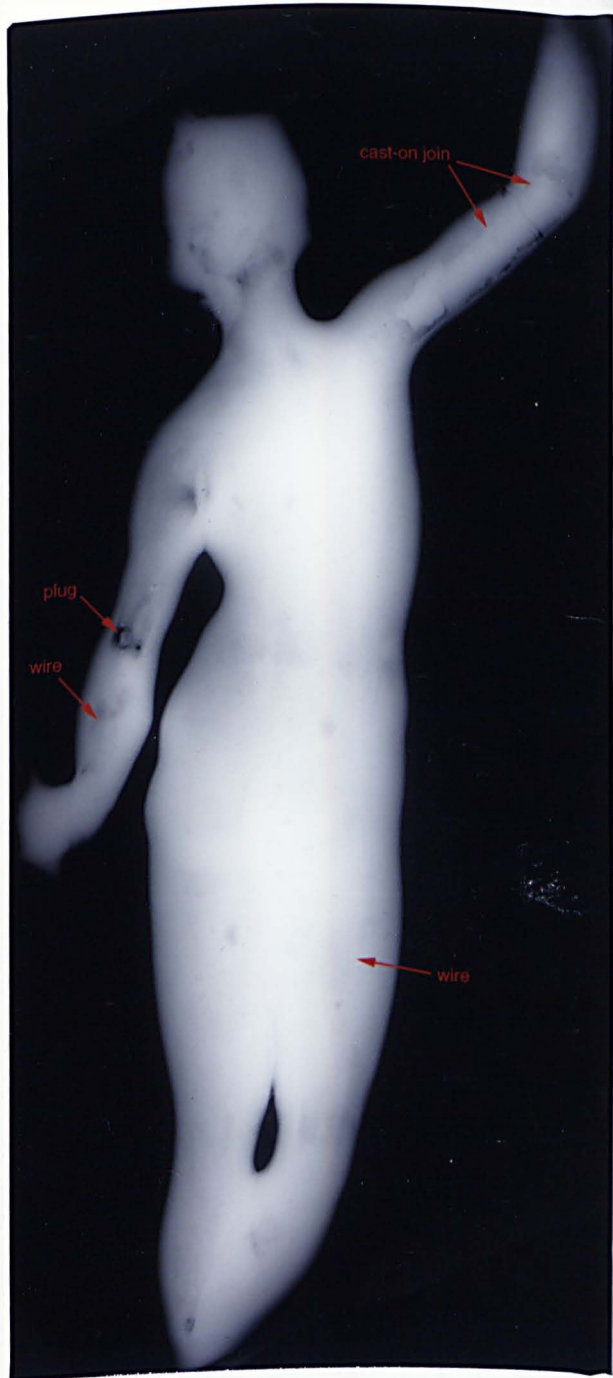


Plate 40. *Fortuna*, after model by Giambologna (Metropolitan Museum of Art, 1970.57) (left) photograph of sculpture, (right) annotated digitized radiograph.

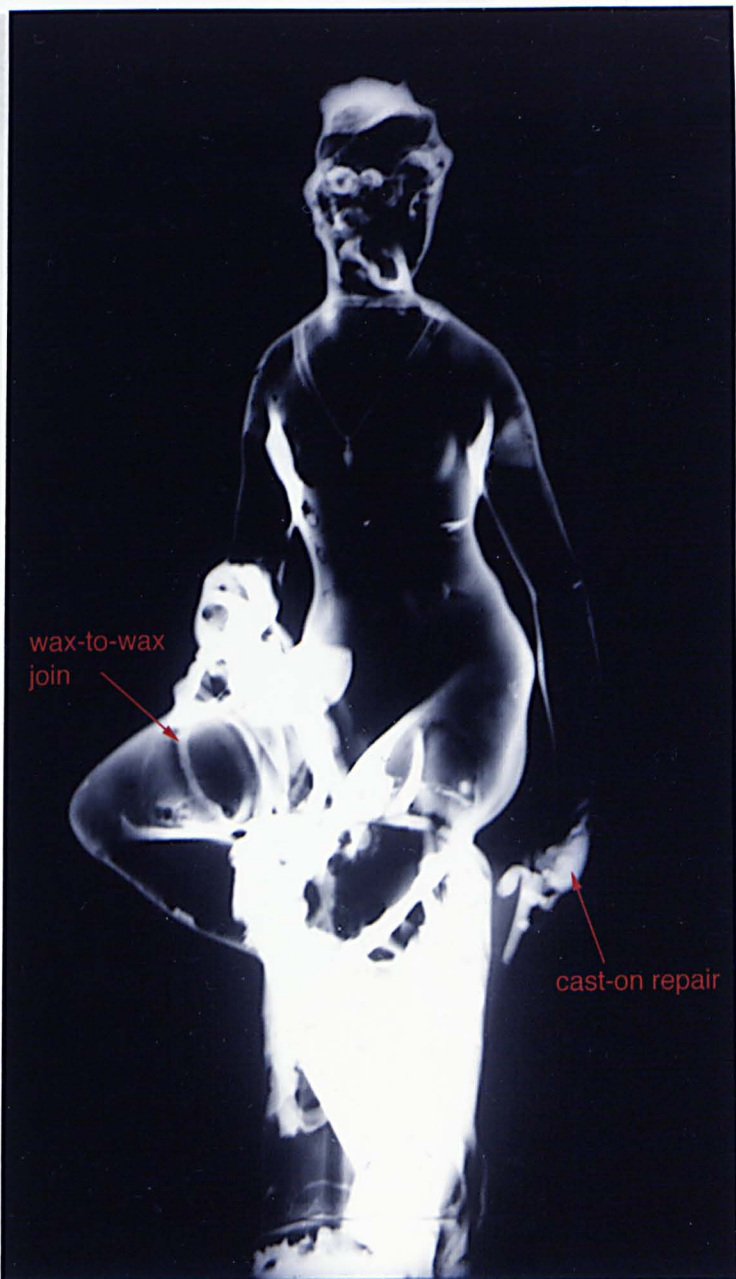


Plate 41. *Architecture*, Giambologna (Museum of Fine Arts, 40.23) (left) photograph of sculpture (The Marie Antoinette Evans Fund and 1931 Purchase Fund, courtesy Museum of Fine Arts, Boston); (right) digitized radiograph.





Plate 42. *Crouching Venus or Kneeling Woman Drying Herself*, Giambologna (Museo Nazionale del Bargello, 62) (left) photograph of sculpture; (right) radiograph.

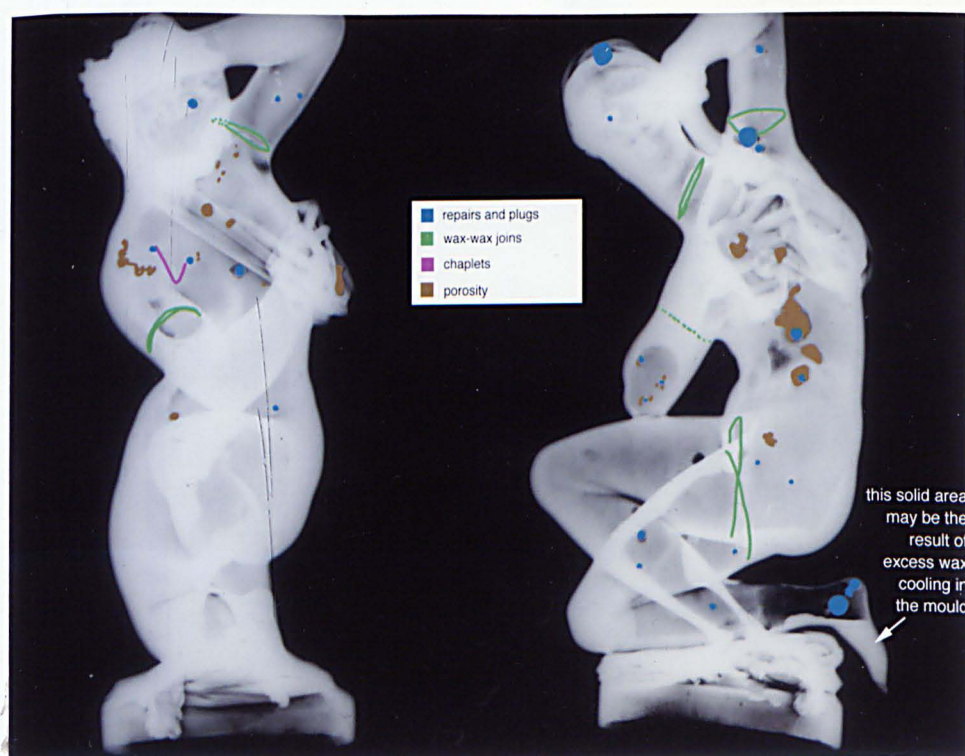
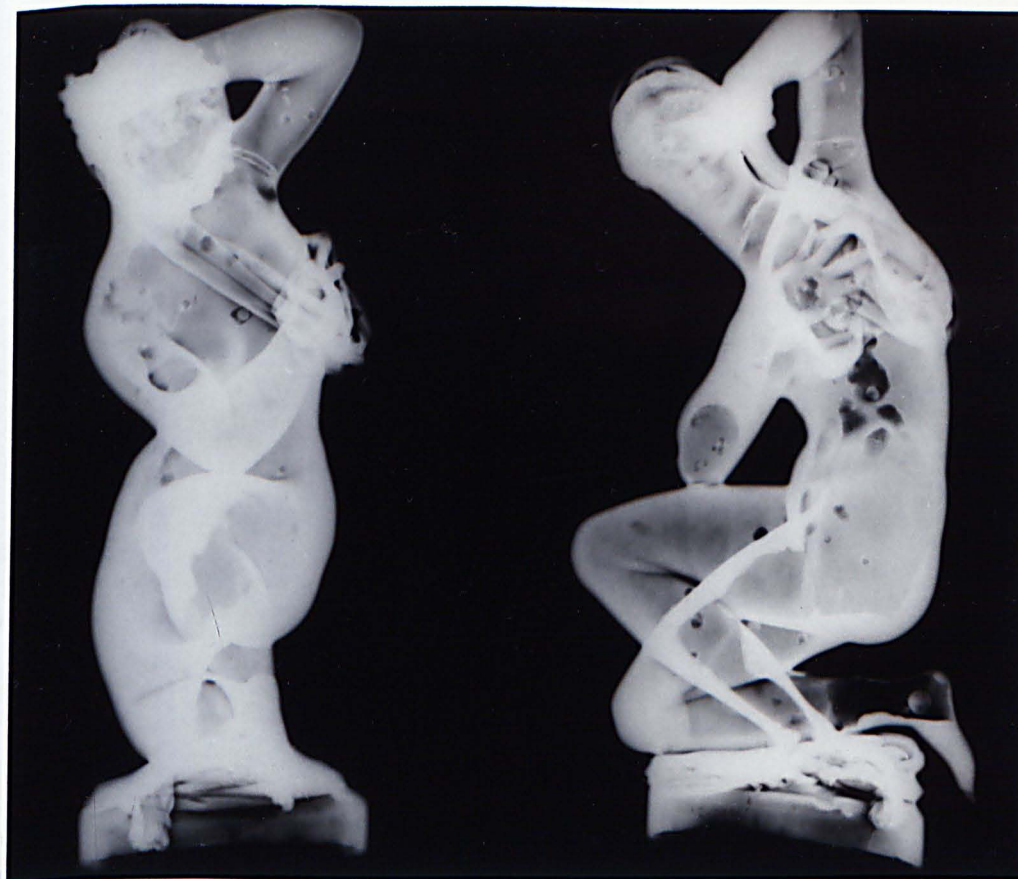


Plate 43. *Crouching Venus or Kneeling Woman Drying Herself*, after Giambologna (Holburne of Menstrie Museum, Bath, C. 904) (top) radiographs; (bottom) annotated digitized radiographs.





Plate 44. *Mars*, Giambologna (private collection) (top left) photograph of sculpture; (top right) experimental cast of *Mars*: view from underside of sculpture showing spiraling composition; (bottom left) detail of the signature under the right foot; (bottom) photograph of sculpture.



Plate 45. *Mars*, Giambologna (private collection) (left and right) annotated digitized tracings of the radiographs.

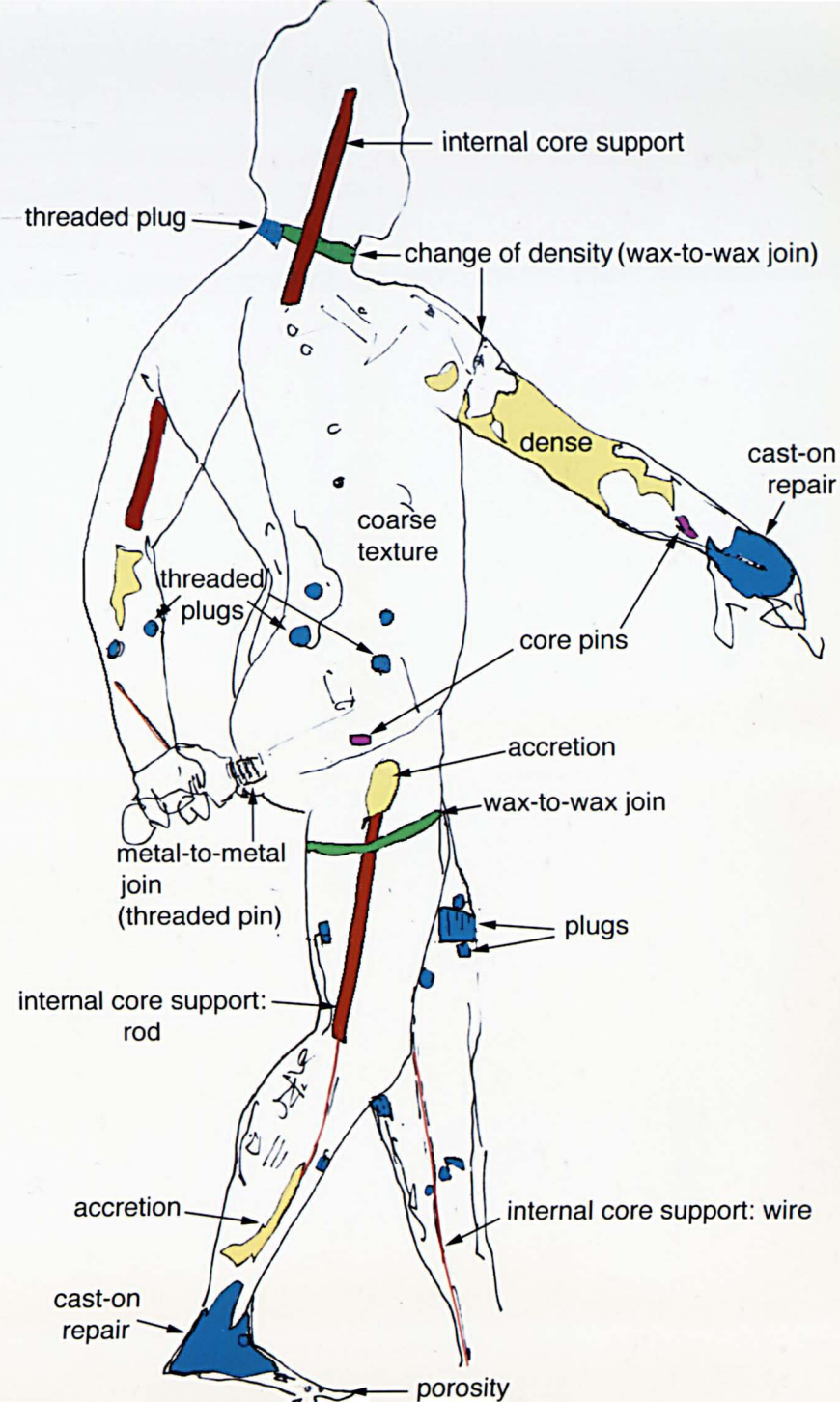
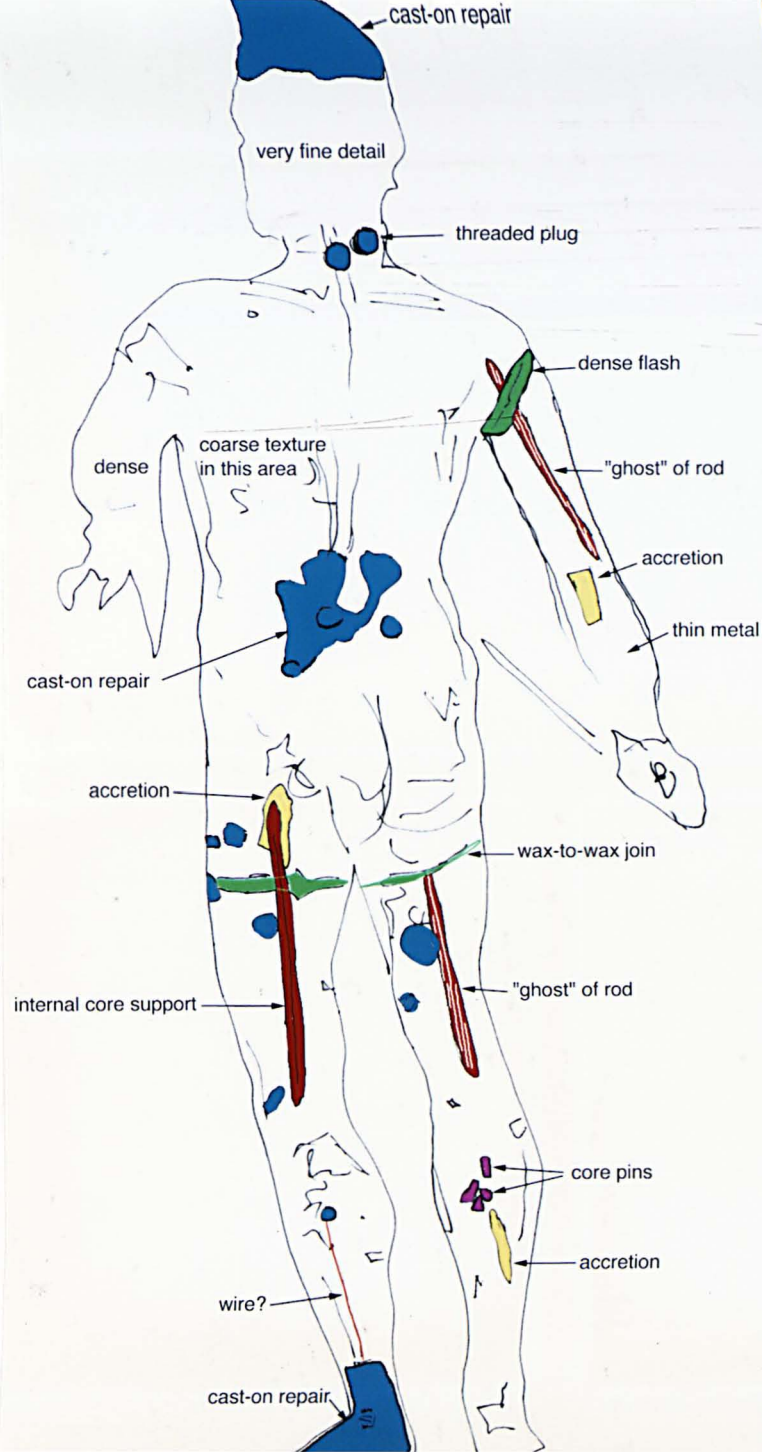






Plate 46. *Mars*, after Giambologna (Cleveland Museum of Art, 64.421) (left) photograph of sculpture; (top right) detail of the figure's buttocks; (bottom right) radiograph .



- core pins
- internal core supports
- wax-to-wax joins
- wire for hanging wax
- plugs and repairs
- threaded pin for mounting



Cleveland Museum of Art (64.421)  
*Mars*, bronze  
 after model by Giambologna



Plate 47. *Mars*, after Giambologna (Cleveland Museum of Art, 64.421) (left) annotated transparent overlay on digitized inverted radiograph; (right) radiograph.





Plate 48. *Mars*, after Giambologna (Herzog Anton-Ulrich Museum, Bro. 106) (left) photograph of sculpture on old Türkelstein base (after Herzog Anton Ulrich-Museum, 1994); (right) annotated digitized inverted radiograph.

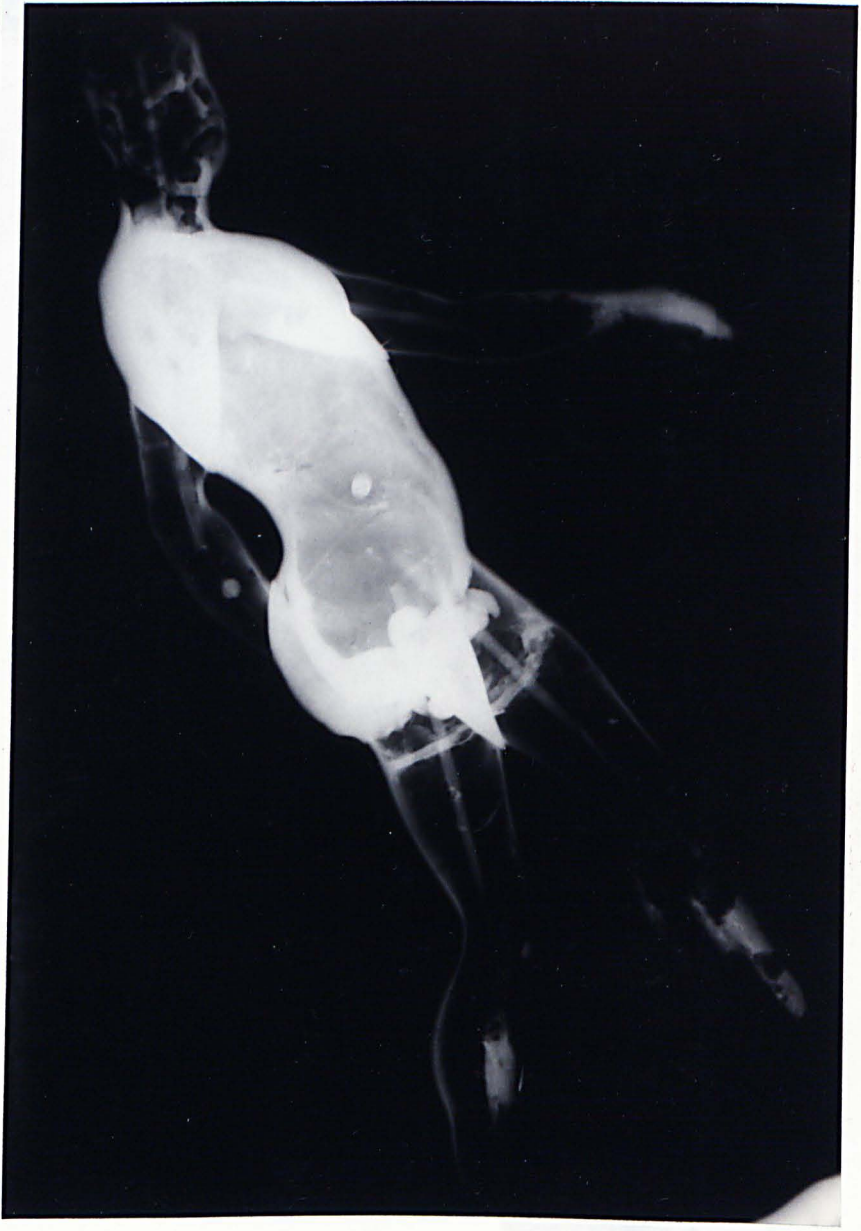


Plate 49. *Mars*, after Giambologna (Herzog Anton-Ulrich Museum, Bro. 106) (left and right) radiographs.





Plate 50. *Mars*, after Giambologna (Victoria and Albert Museum, A-99.1956) photograph of sculpture.



Plate 51. *Mars*, after Giambologna (Victoria and Albert Museum, A-99.1956) (left and right) radiographs.





Plate 52. *Mars*, A. Susini? after Giambologna (Musée du Louvre, OA 5439) (left) photograph of sculpture (right) radiograph.

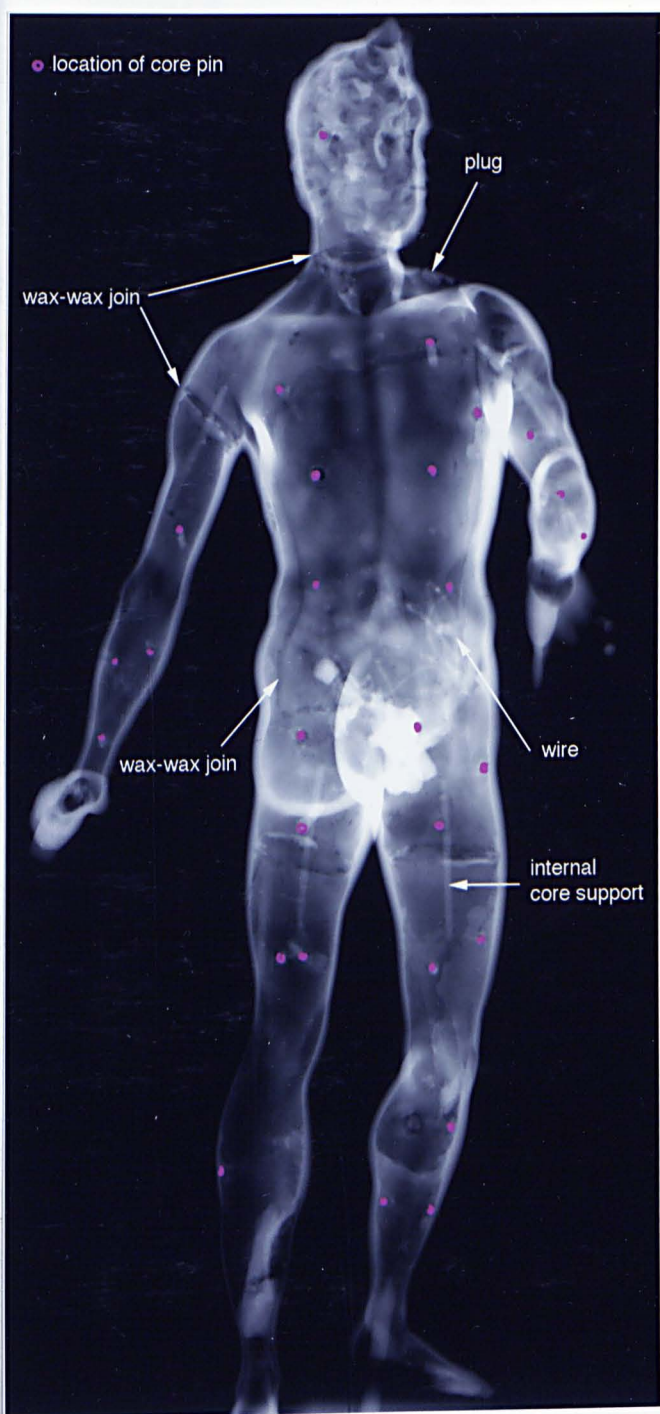


Plate 53. *Mars*, A. Susini? after Giambologna (Musée du Louvre, OA 5439) (left and right) annotated digitized radiographs.





Plate 54. *Mars*, after Giambologna (Royal Museum of Scotland, 1960.910) (left) photograph of sculpture; (right) radiograph.



Plate 55. *Mars*, after Giambologna (Royal Museum of Scotland, 1960.910) (left) radiograph of sculpture; (right) annotated digitized inverted radiograph.



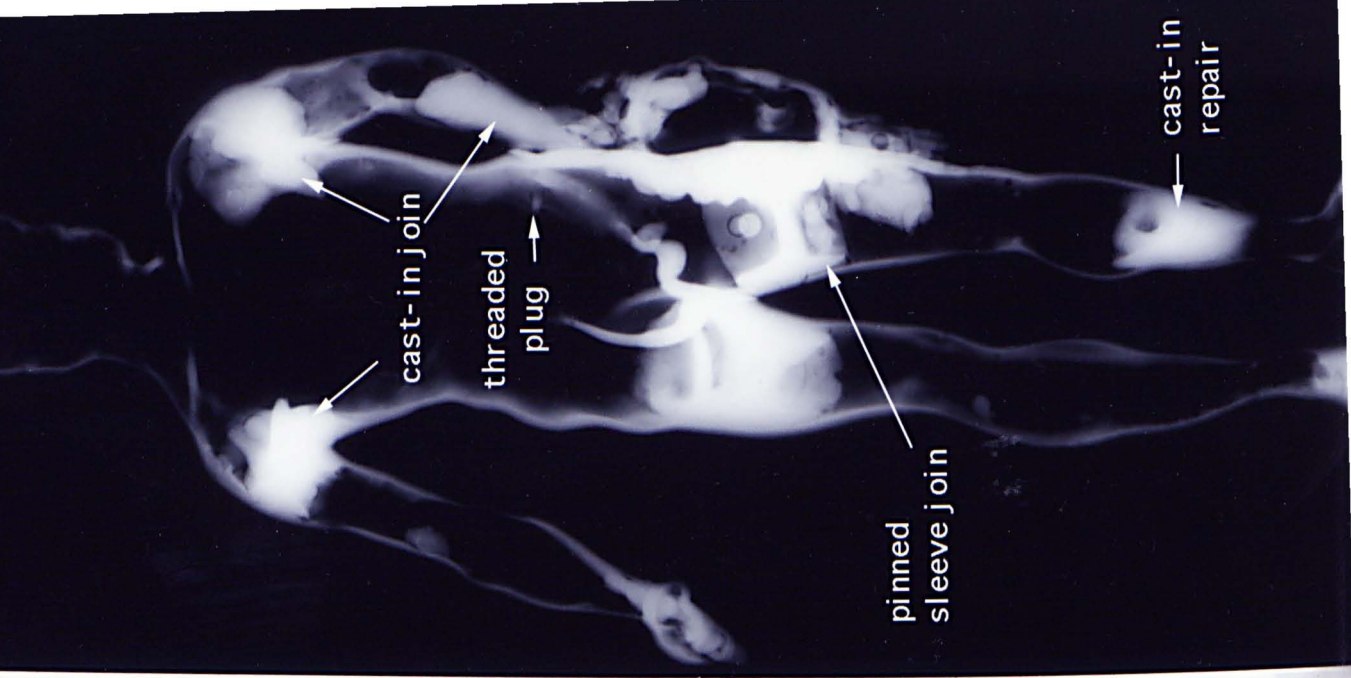
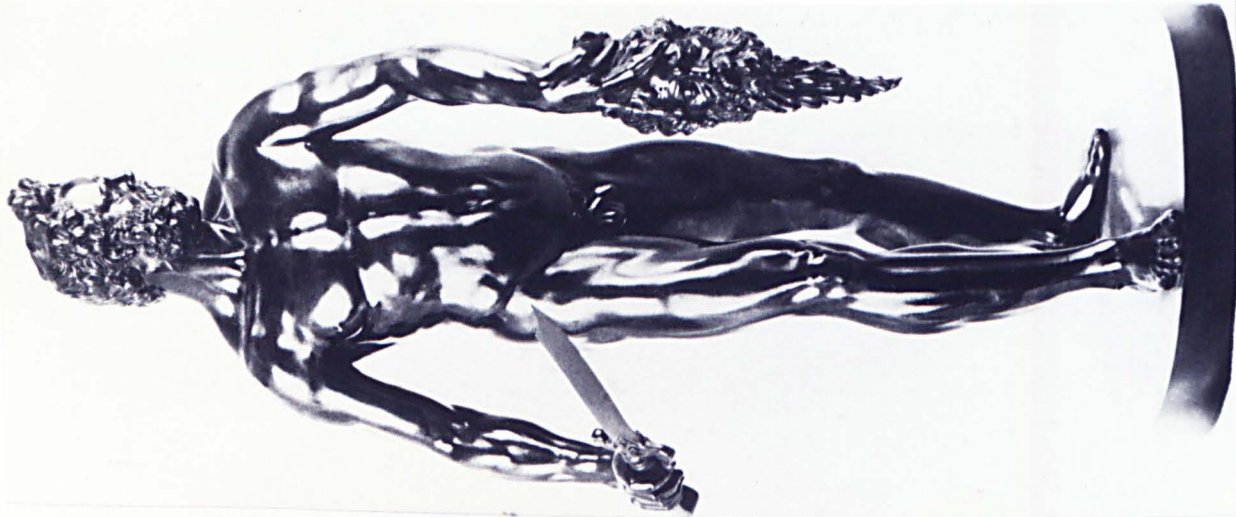


Plate 56. Executioner with Head of St. John the Baptist, M. Soldani-Benzì (National Gallery of Ireland, 8155)  
 (left) photograph of sculpture; (center and right) radiograph and annotated digitized radiograph.



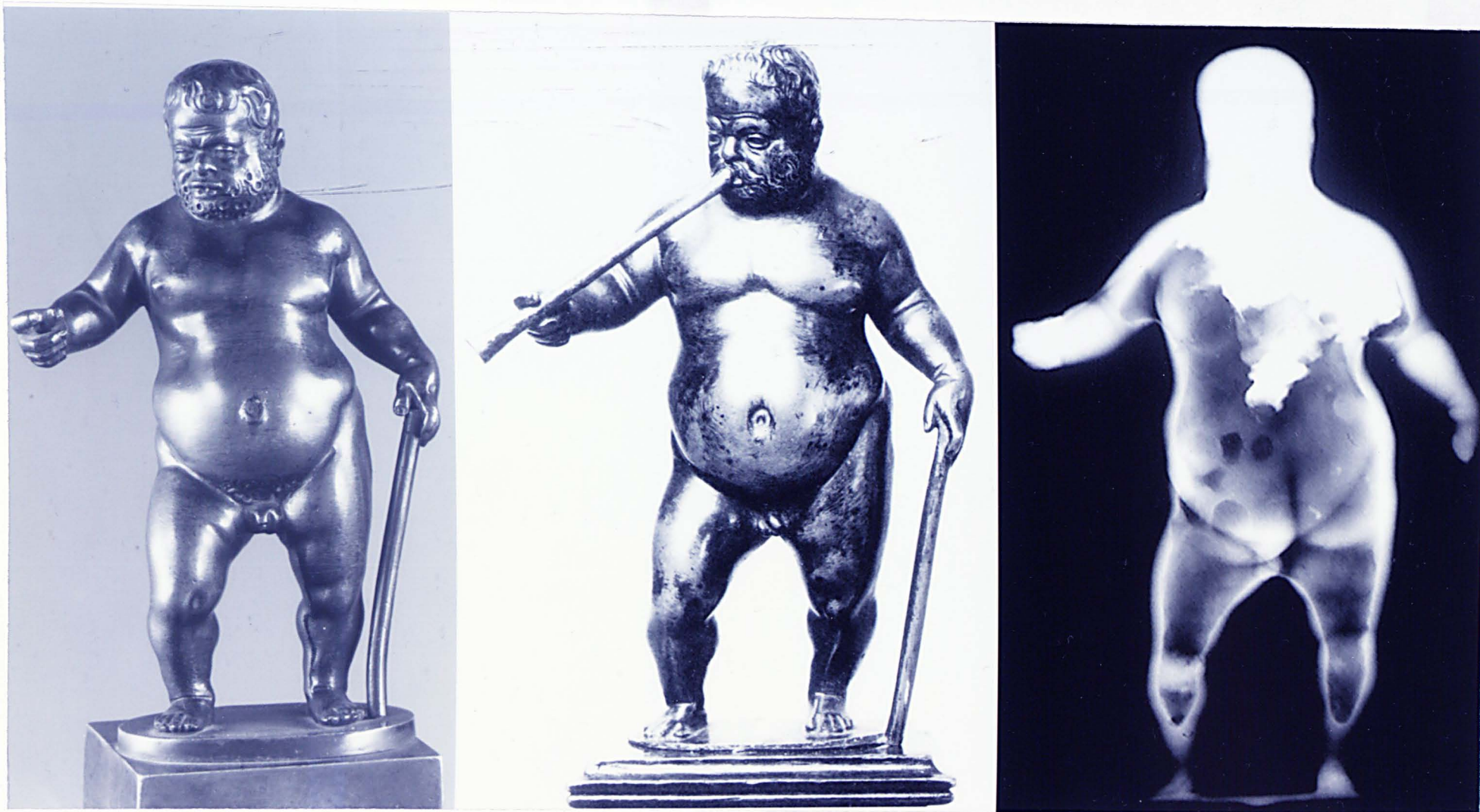


Plate 57. (Left) *Morgante*, after Giambologna (Kunsthistorisches Museum, 10.001) photograph of sculpture; (center and right) *Morgante*, after Giambologna (V&A, 65-1865) photograph of sculpture and annotated digitized radiograph of sculpture.



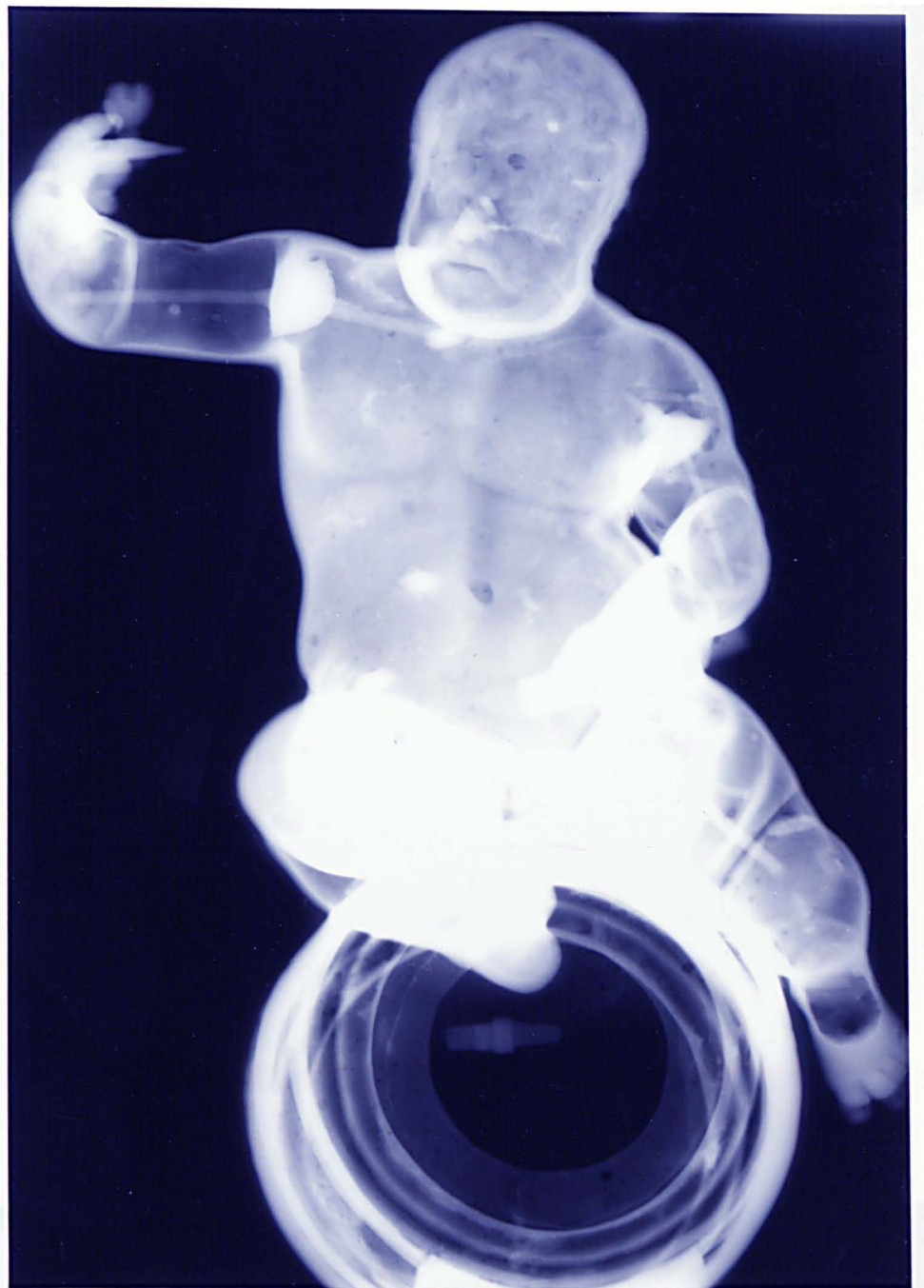


Plate 58. *Morgante on Barrel*, Giambologna? (Musée du Louvre, OA 8973) (left) photograph of sculpture; (right) digitized radiograph of sculpture.



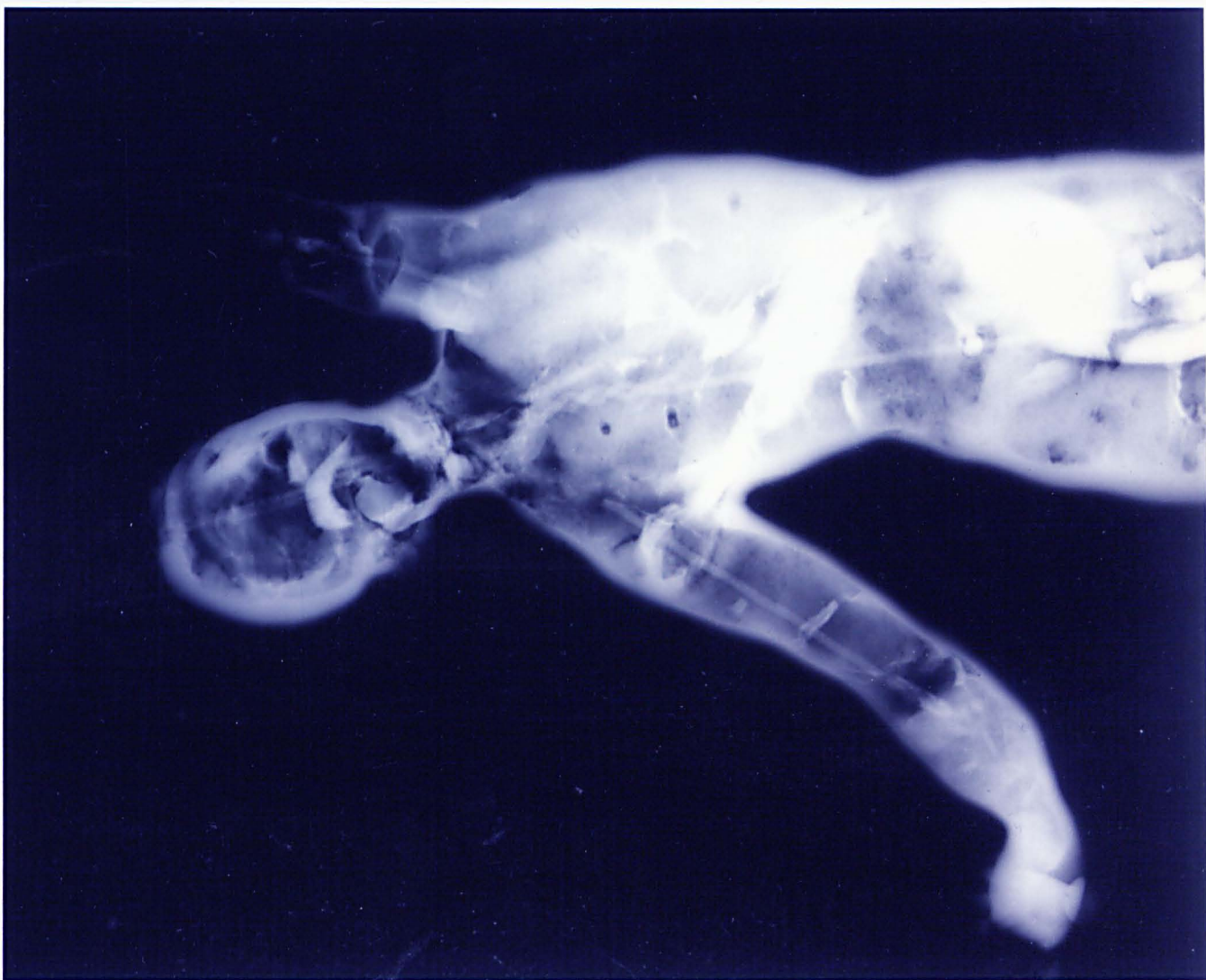
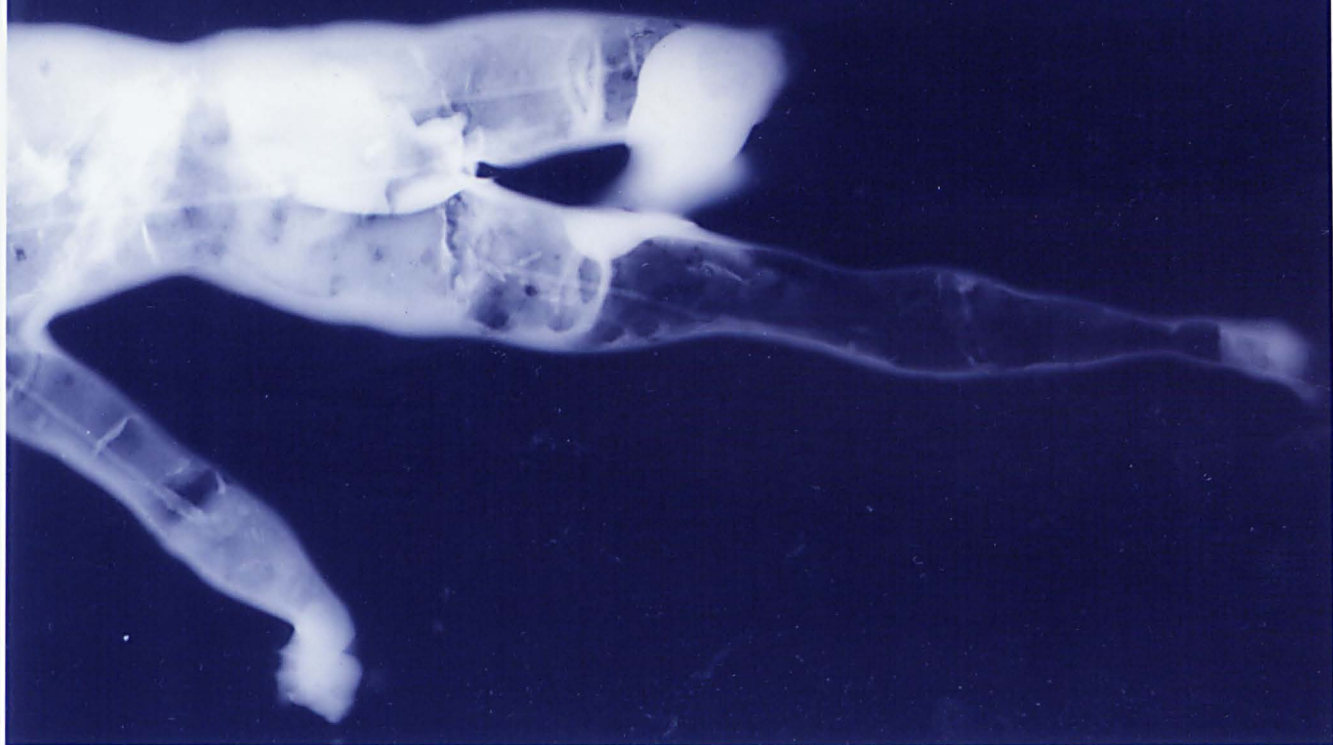


Plate 63. *Flying Mercury*, after Giambologna (John Soane Museum) (left and right) radiographs.



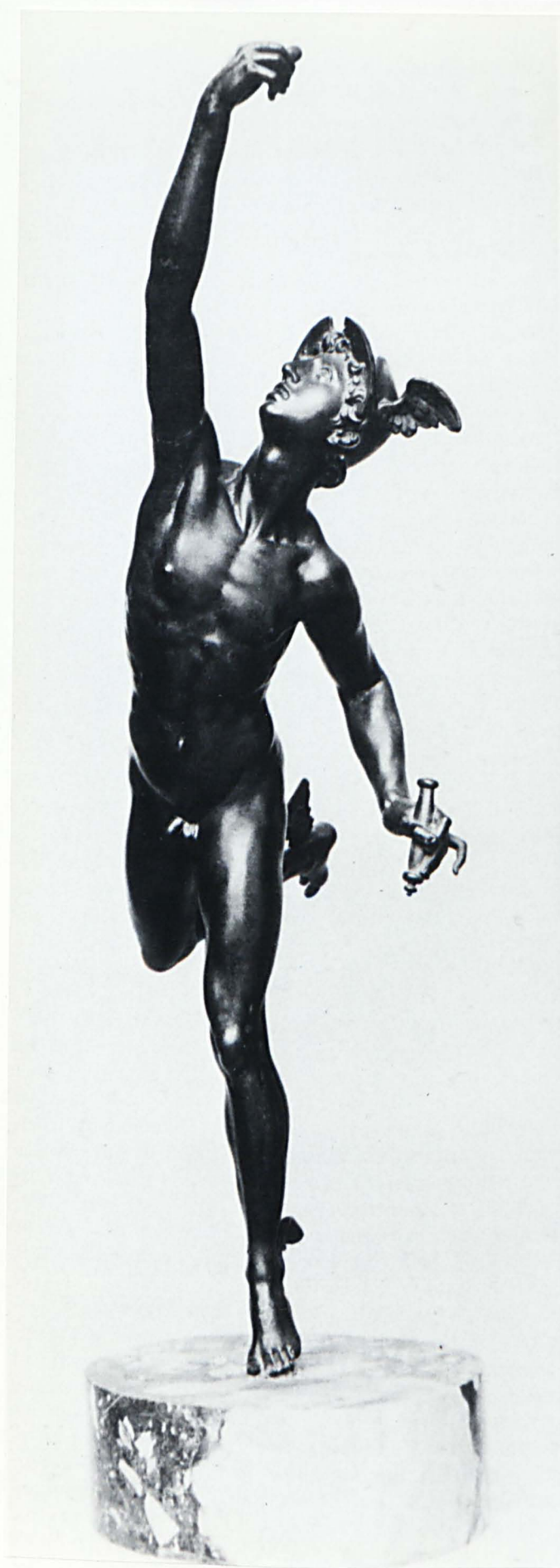


Plate 64. *Flying Mercury*, Giambologna (Museo e Gallerie Nazionali di Capodimonte, 10784) (left) photograph of sculpture; (top and bottom right) digitized radiographs.

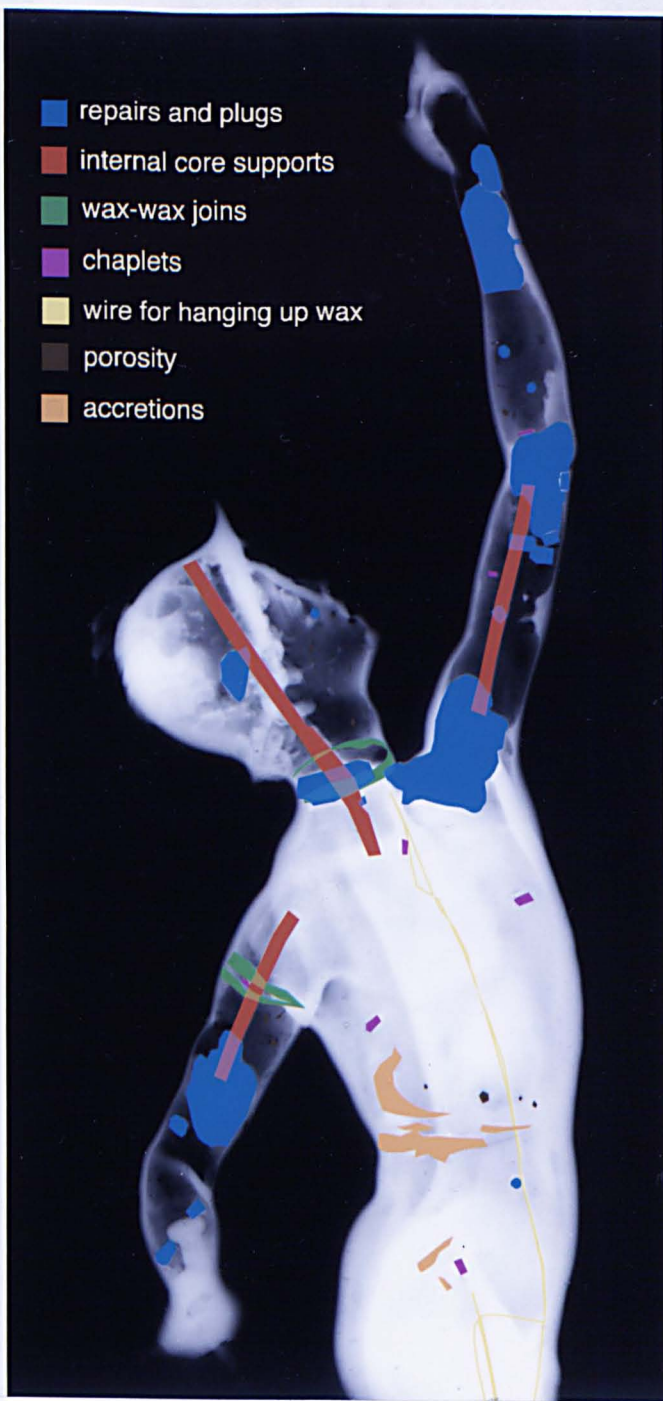
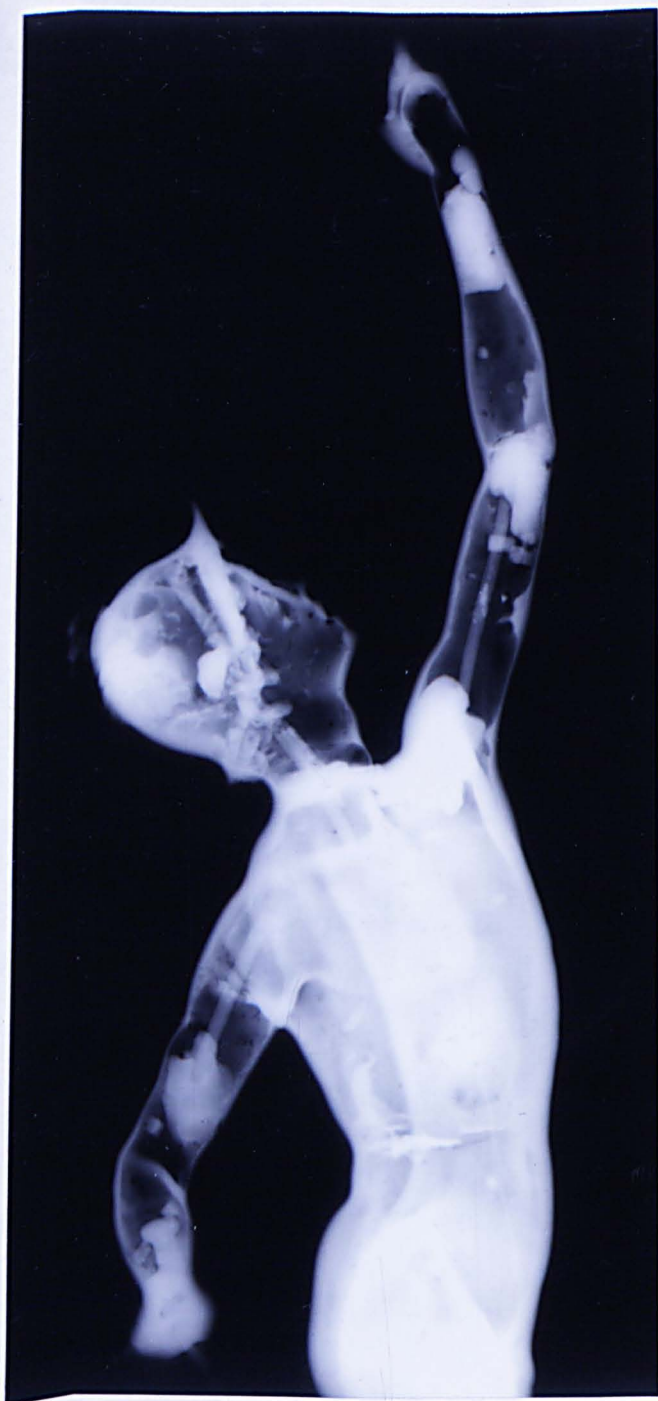


Plate 61. *Flying Mercury*, Giambologna (Kunsthistorisches Museum, 5898) (left and right) digitized and annotated radiograph.





Plate 62. *Flying Mercury*, Giambologna (Kunsthistorisches Museum, 5898) (left) photograph of sculpture; (right) digitized radiograph.

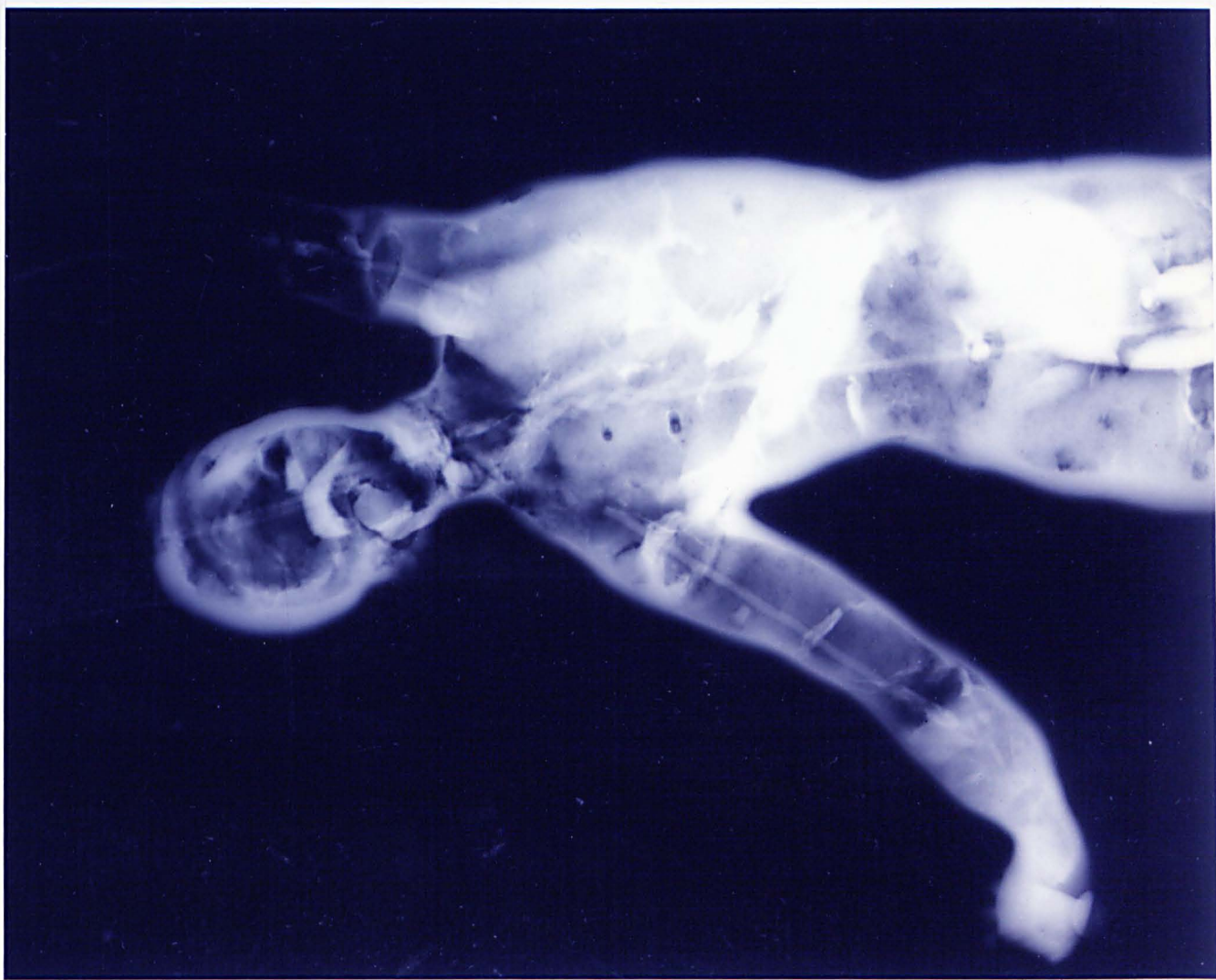
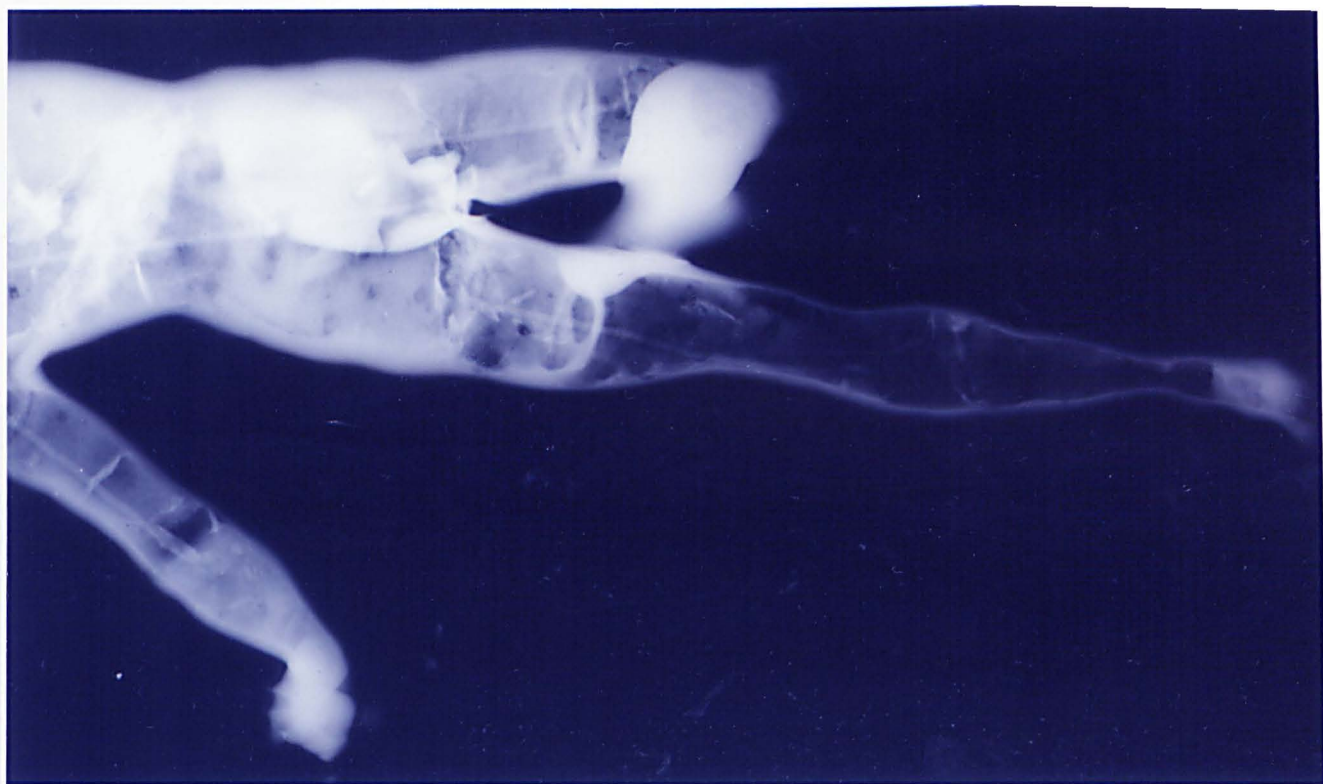


Plate 63. *Flying Mercury*, after Giambologna (John Soane Museum) (left and right) radiographs.



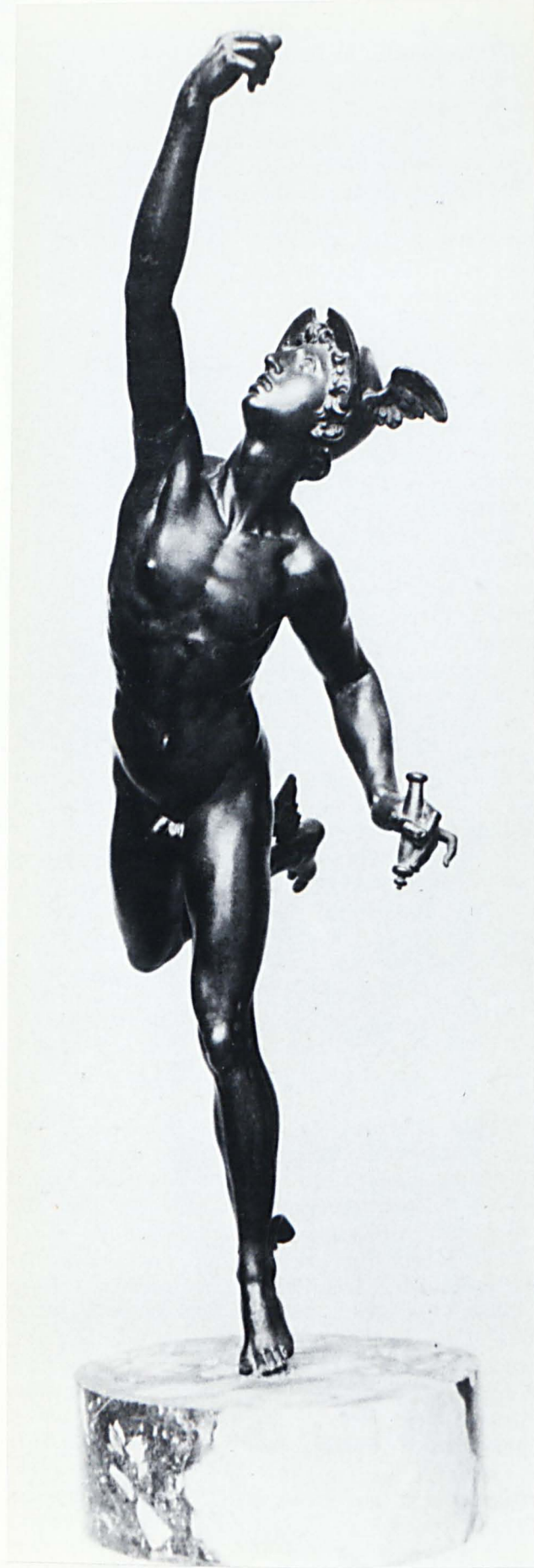


Plate 64. *Flying Mercury*, Giambologna (Museo e Gallerie Nazionali di Capodimonte, 10784) (left) photograph of sculpture; (top and bottom right) digitized radiographs.

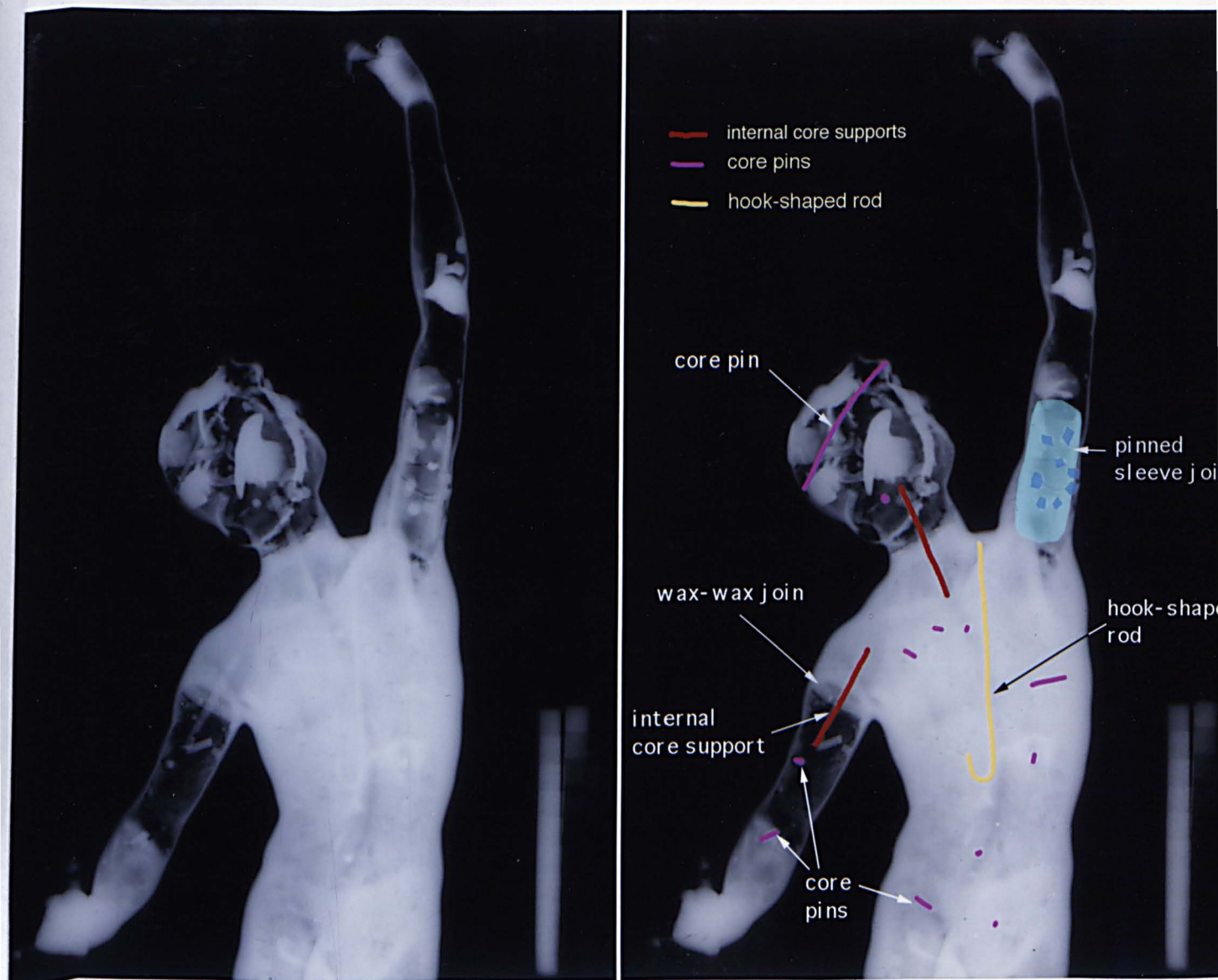


Plate 65. *Flying Mercury*, Giambologna (Museo e Gallerie Nazionali di Capodimonte, 10784) (left and right) digitized and annotated radiograph.





Plate 66. *Nessus and Dejanira*, Giambologna (Musée du Louvre, Cour. 176) (left) photograph of sculpture; (right) detail of signature on the centaur's filet.



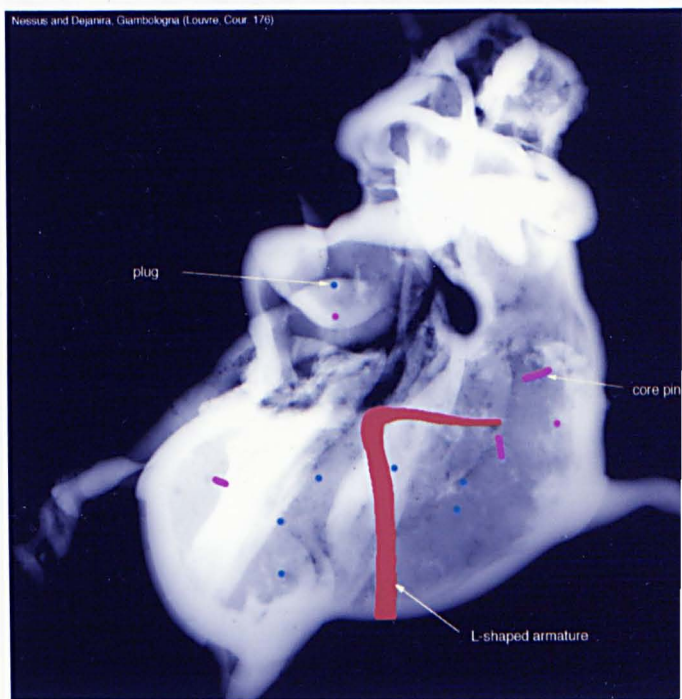
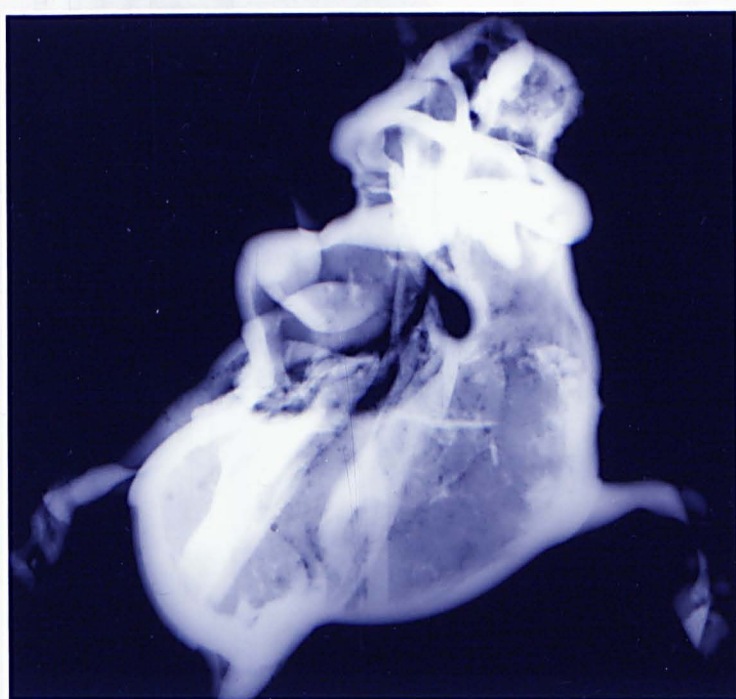
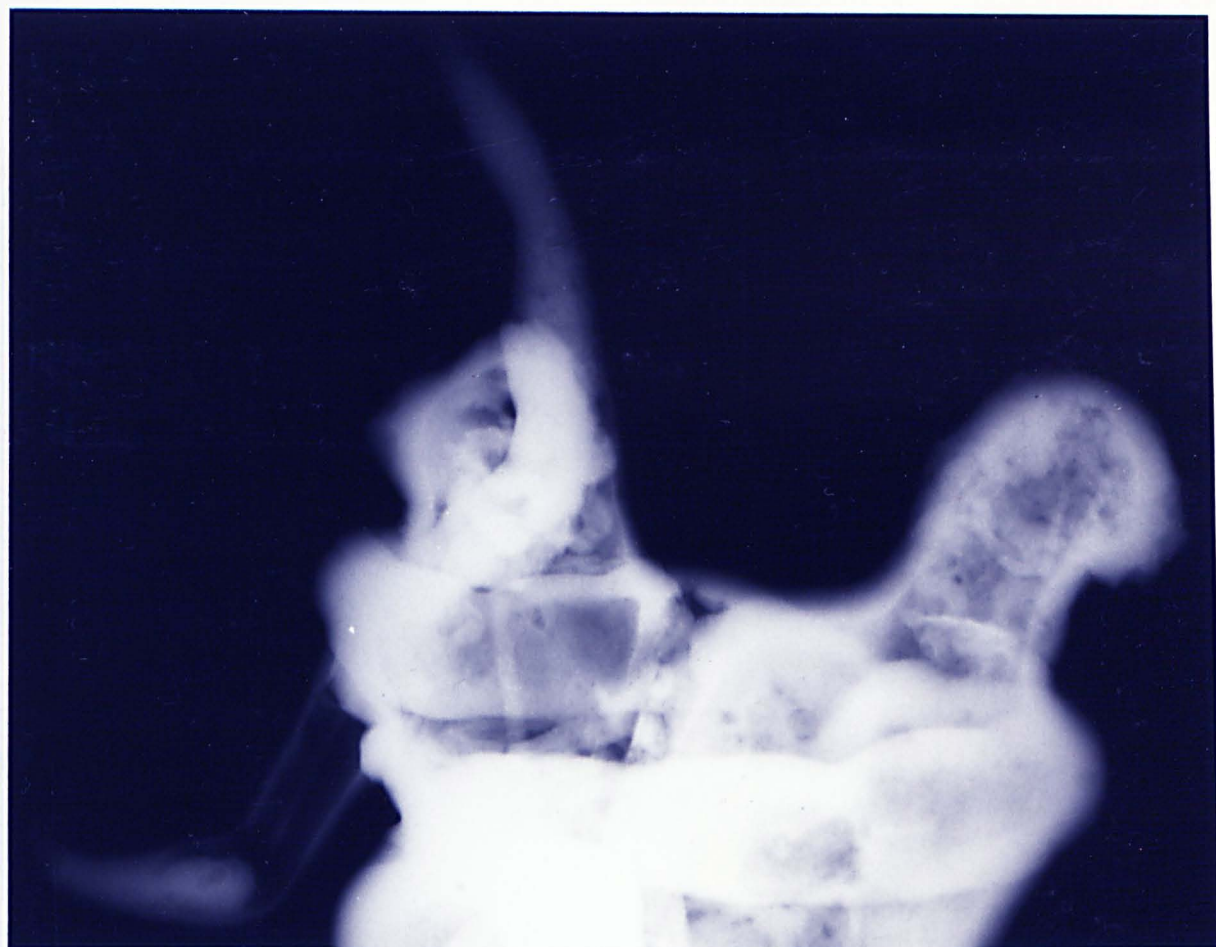


Plate 67. *Nessus and Dejanira*, Giambologna (Musée du Louvre, Cour. 176) (top) radiograph; (bottom left and right) digitized and annotated radiograph.





Plate 68. (Left) *Nessus and Dejanira*, A. Susini (Kunsthistorisches Museum, 5847) photograph of sculpture; (right) *Nessus and Dejanira*, Giambologna (Staatliche Kunstsammlungen, Dresden, H.23/95) photograph of sculpture.



Plate 69. *Nessus and Dejanira*, A. Susini (Kunsthistorisches Museum, 5847) radiograph.





Plate 70. *Hercules and Nemean Lion*, F. Tacca? (National Gallery of Ireland, 8124) (left) photograph of sculpture; (right) radiograph.



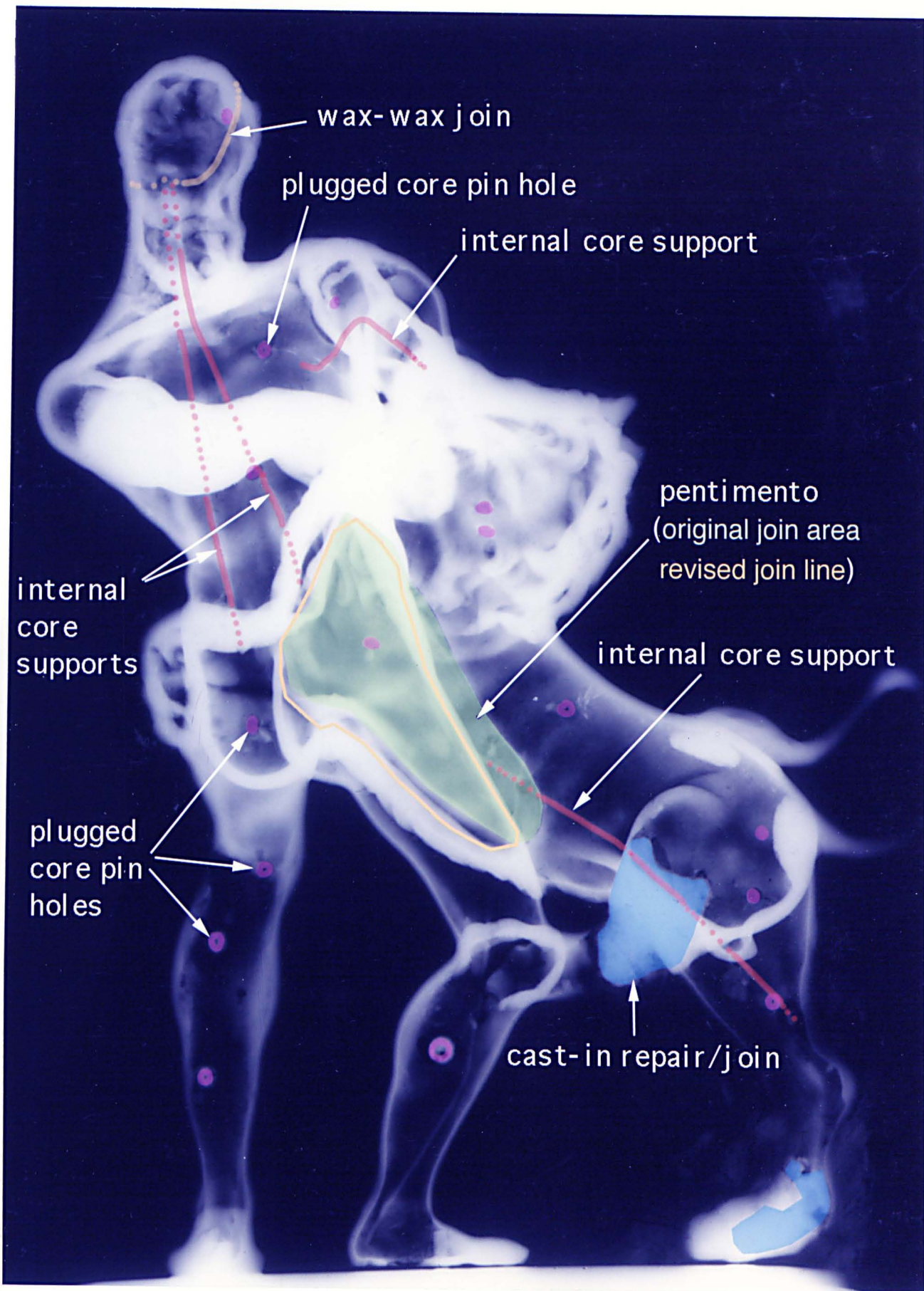


Plate 71. *Hercules and Nemean Lion*, F. Tacca? (National Gallery of Ireland, 8124) annotated digitized radiograph.



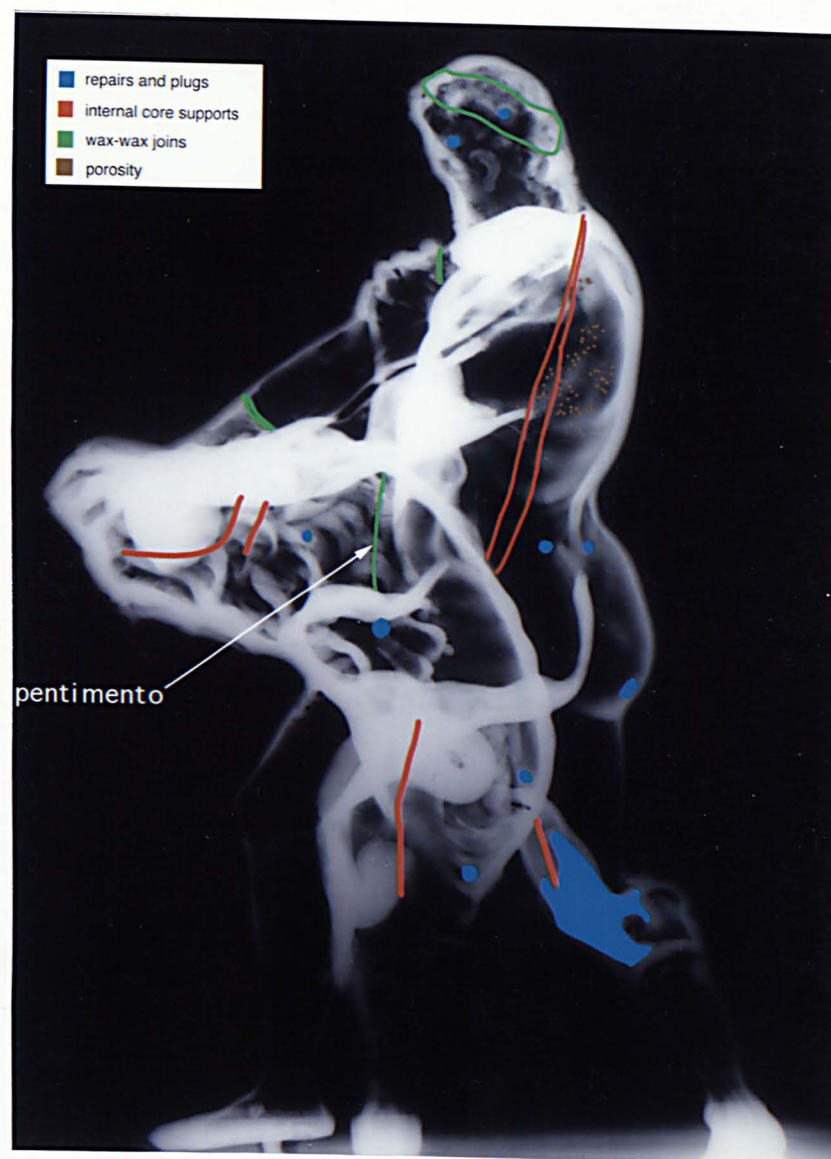


Plate 72. *Hercules and Nemean Lion*, F. Tacca? (National Gallery of Ireland, 8124) (left) radiograph; (right) annotated digitized radiograph.



Plate 73. *Hercules and Lernaean Hydra*, F. Tacca? (National Gallery of Ireland, 8121) (left) photograph of sculpture; (right) digitized radiograph



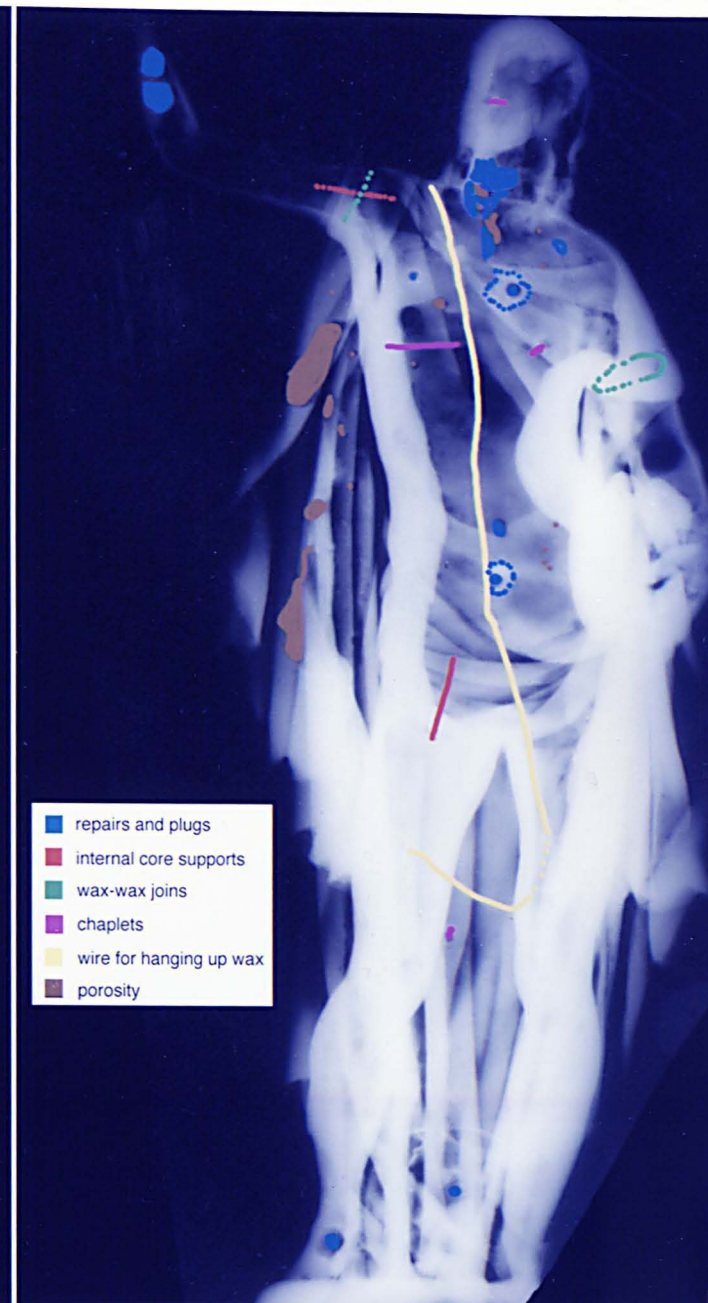
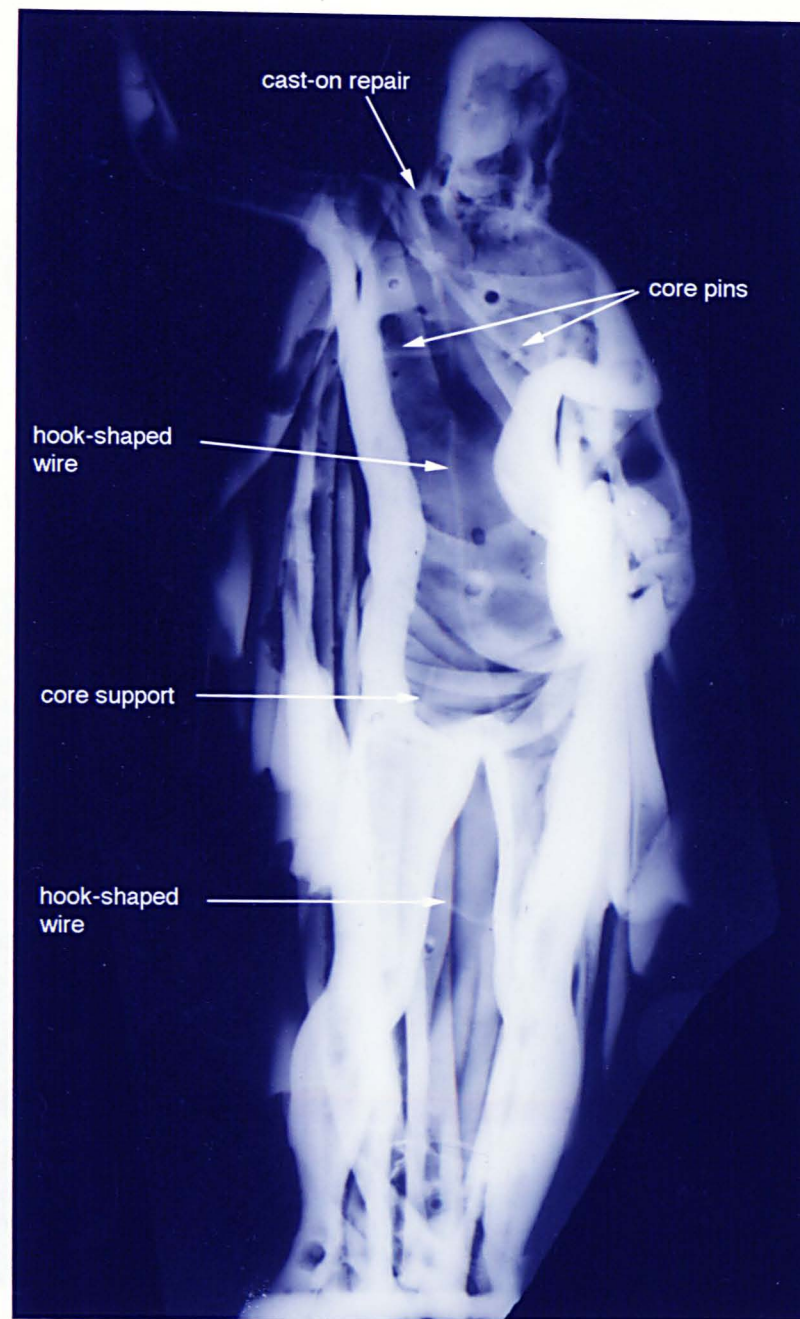


Plate 74. *Christ Resurrected*, A. Susini after Giambologna (Metropolitan Museum of Art, 63.39) (left) photograph of sculpture; (center and right) annotated digitized radiographs.



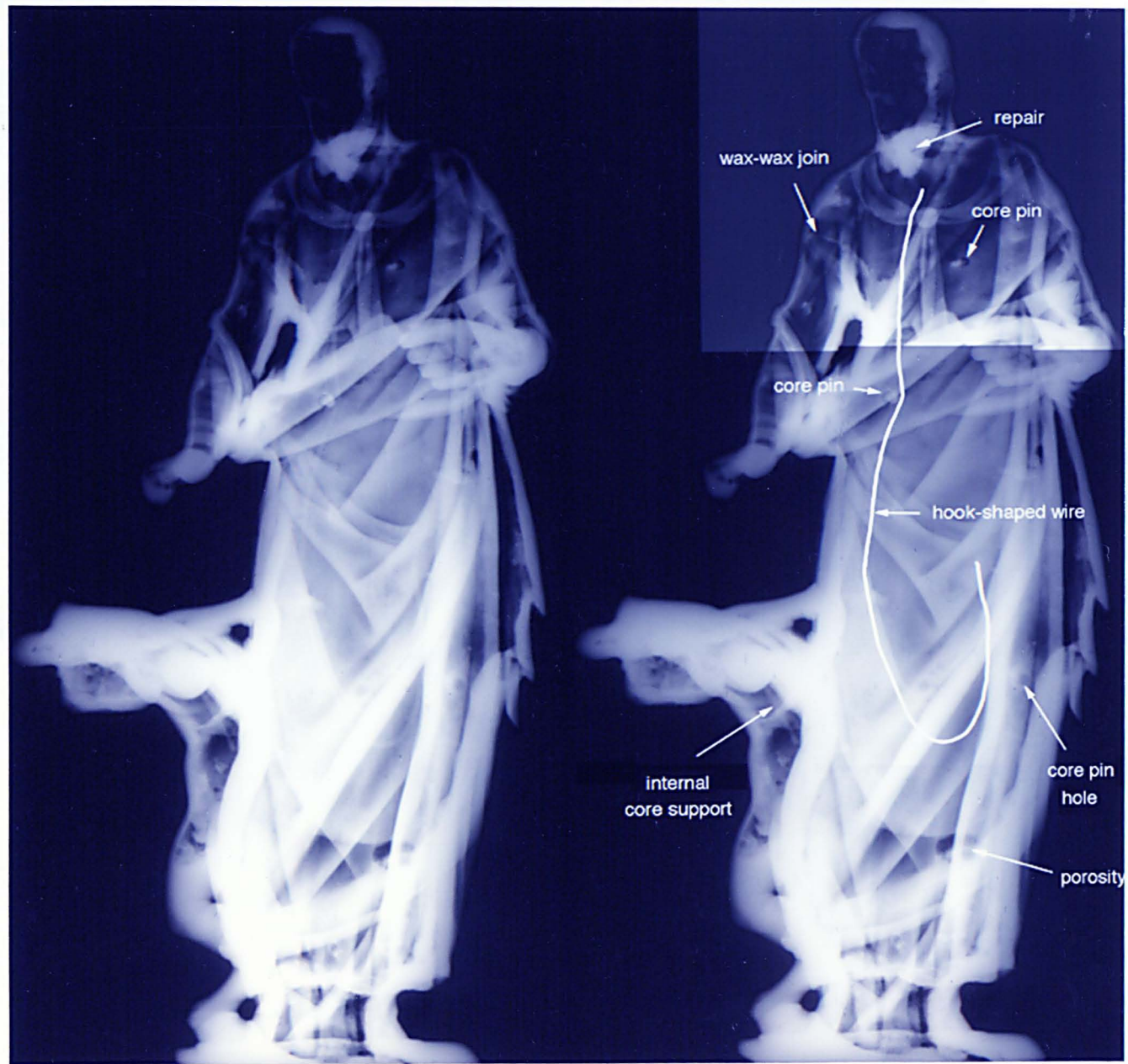


Plate 75. *St. Matthew*, A. Susini after Giambologna (Metropolitan Museum of Art, 57.136.1) (top left) photograph of sculpture; (top right) digitized radiograph; (bottom) annotated digitized radiograph.





Plate 76. *St. John*, A. Susini after Giambologna (Metropolitan Museum of Art, 57.136.2) (left) photograph of sculpture; (right) digitized radiograph.

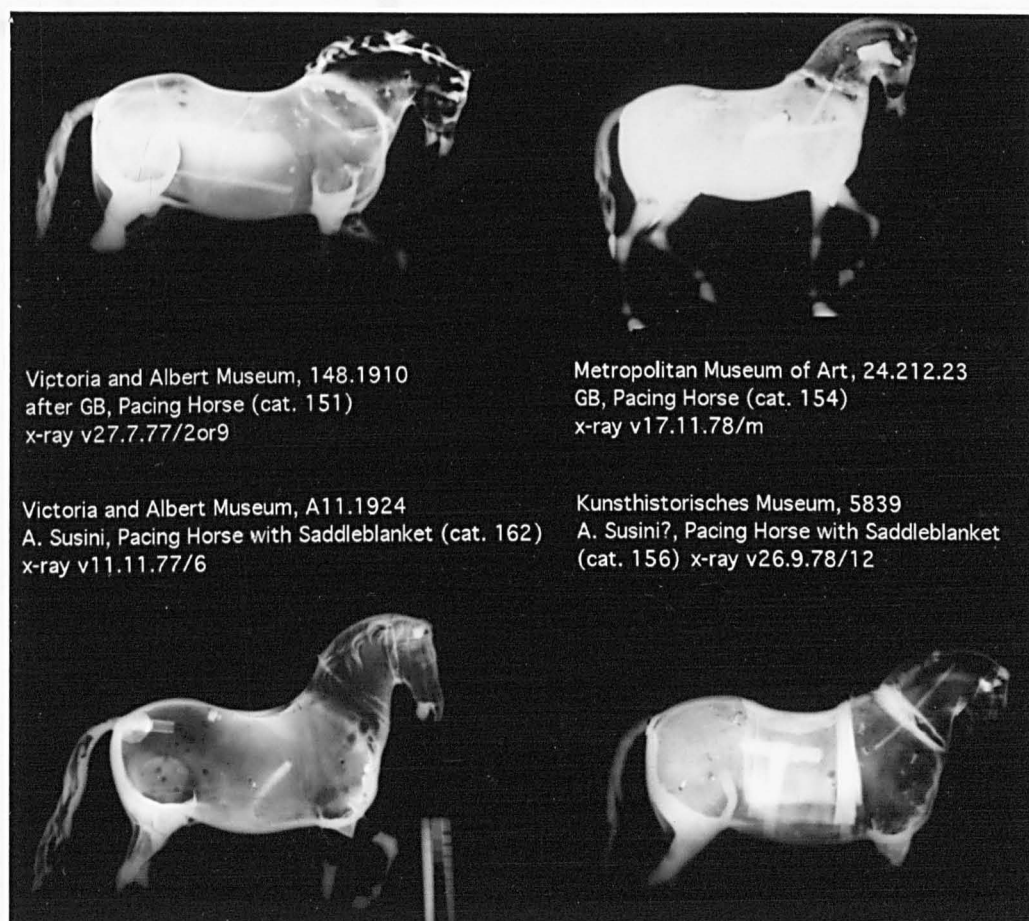
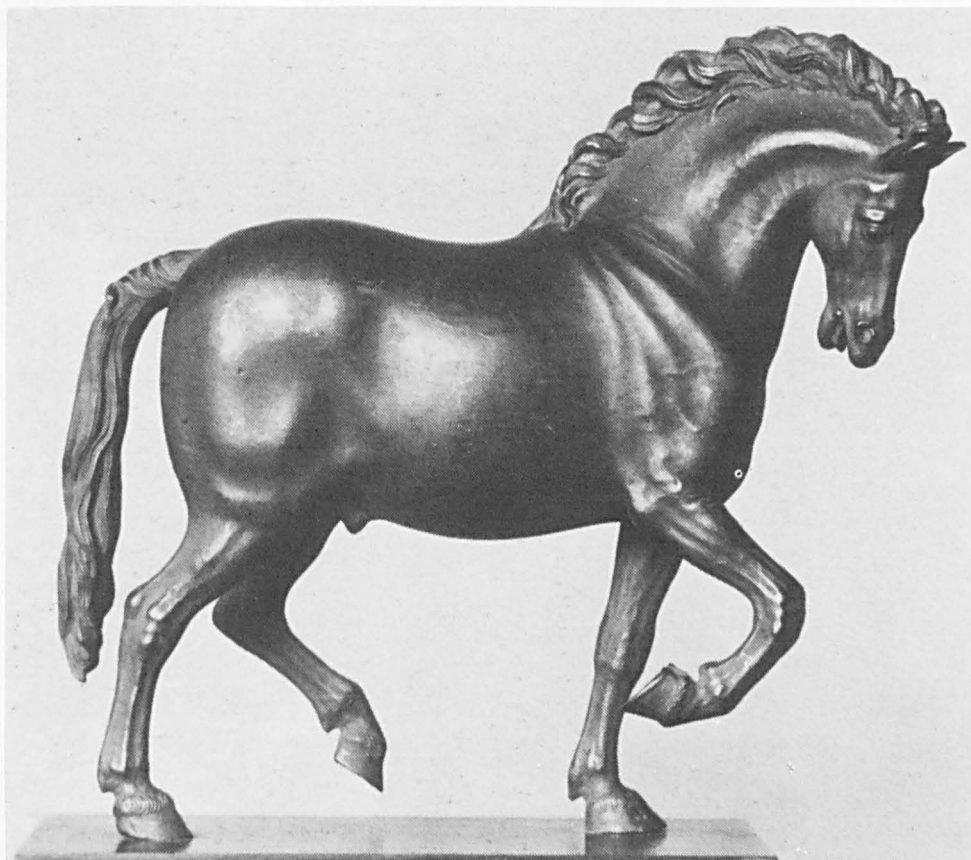


Plate 77. (Top) *Pacing Horse*, after Giambologna (Kunsthistorische Museum, 5843) photograph; (bottom) digitized radiographs of *Pacing Horse*, Giambologna workshop (Victoria and Albert Museum, A.148-1910); *Pacing Horse with Cropped Mane*, Giambologna (Metropolitan Museum of Art, 24.212.23); *Pacing Horse*, A. Susini (Victoria and Albert Museum, A.11-1924); *Pacing Horse with Saddle Cloth*, after Giambologna (Kunsthistorisches Museum, 5839).



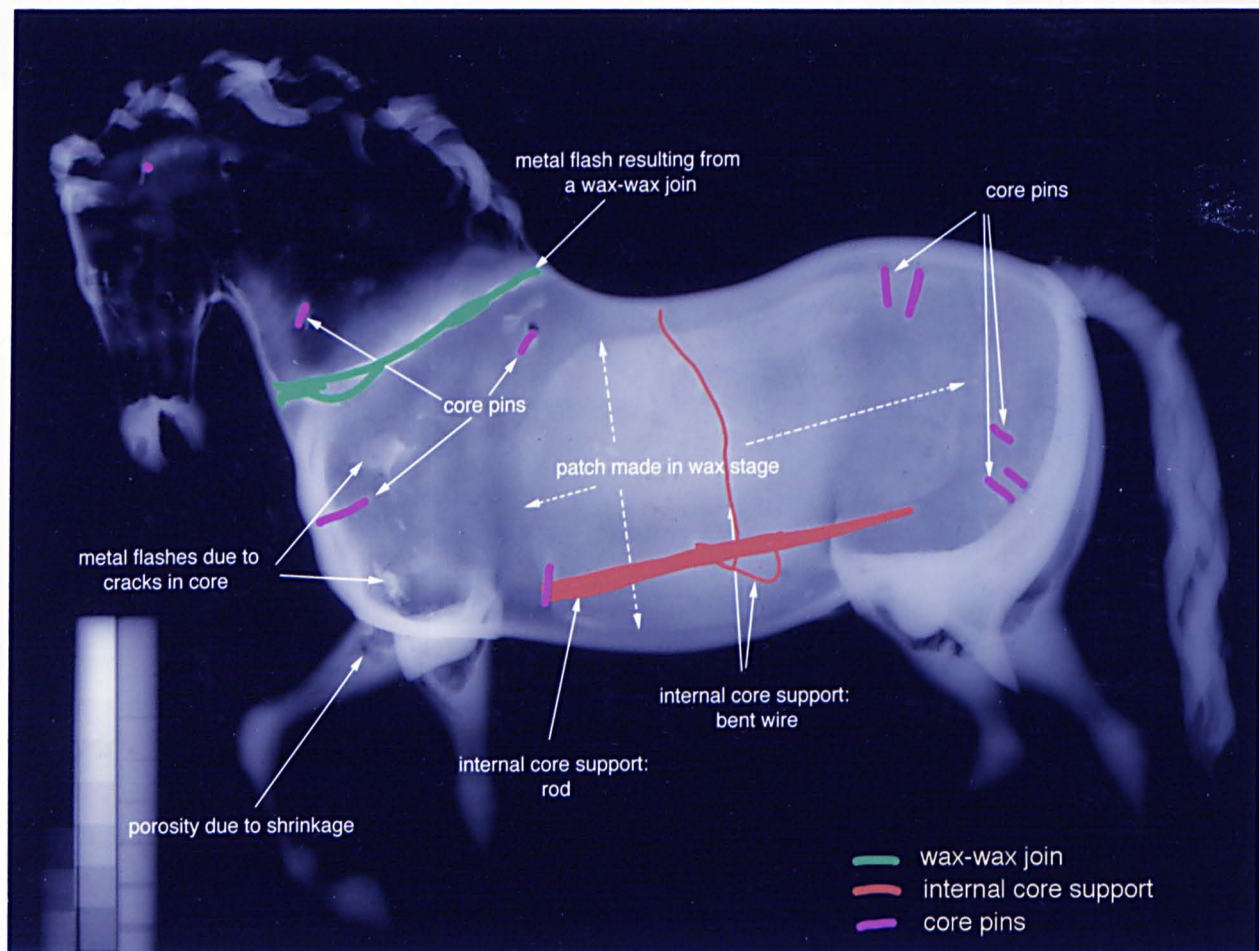


Plate 78. *Pacing Horse*, Giambologna workshop (Victoria and Albert Museum, A.148-1910) (top left) photograph of sculpture side view; (top right) photograph of sculpture frontal view and showing the base; (bottom) annotated digitized radiograph.



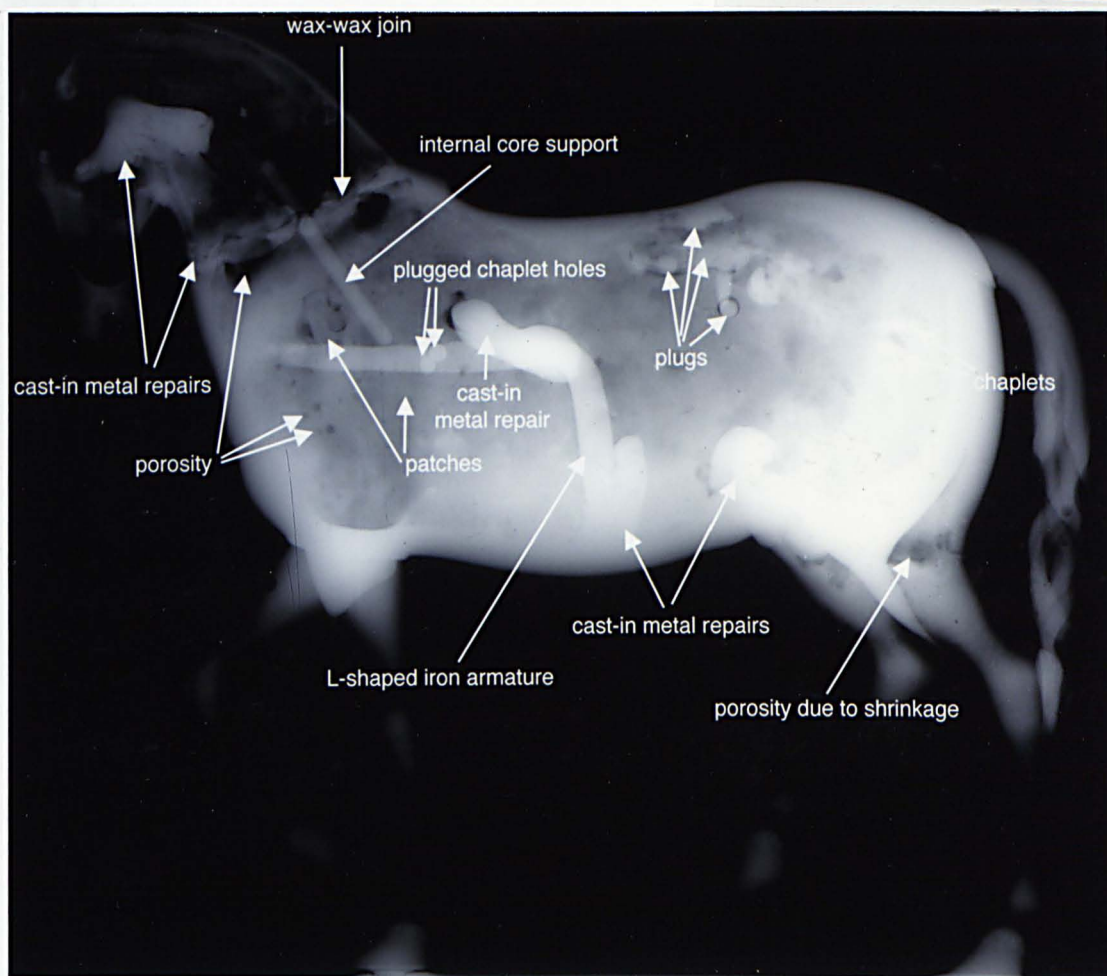
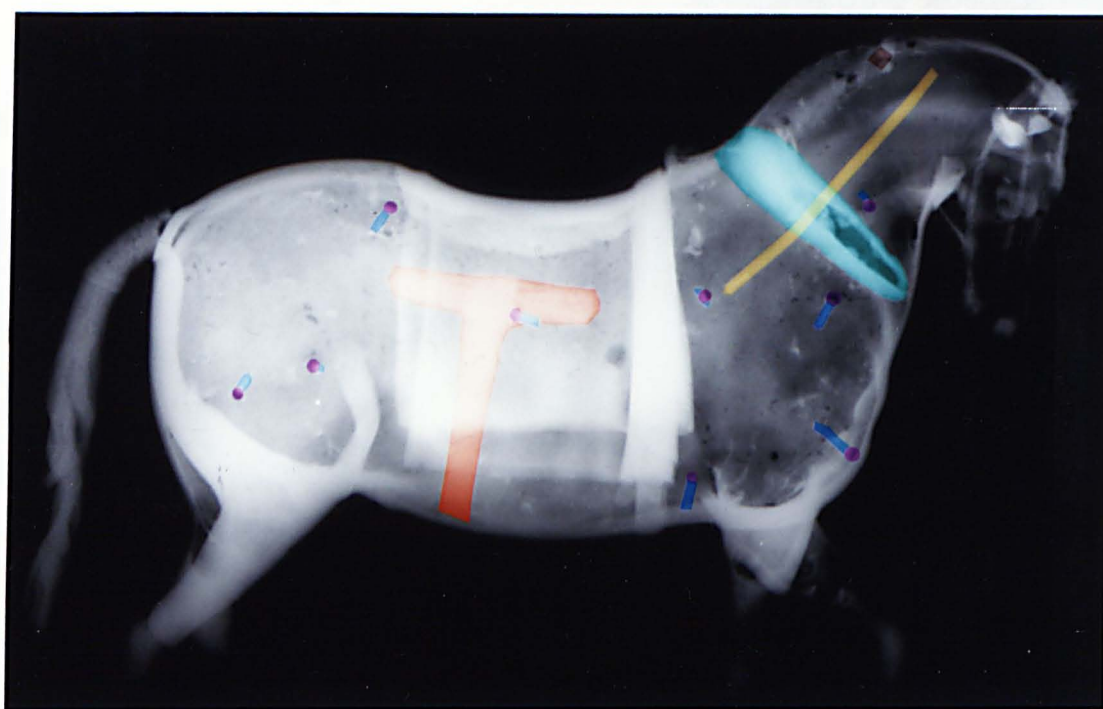


Plate 79. (Top left) *Pacing Horse with Cropped Mane*, Giambologna (Metropolitan Museum of Art, 24.212.23) photograph of sculpture; (top right) *Pacing Horse with Cropped Mane*, after A. Susini? (Pollock House, E 49 113 107) photograph of sculpture; (bottom) *Pacing Horse with Cropped Mane*, Giambologna (Metropolitan Museum of Art, 24.212.23) annotated digitized radiograph.





- |                                                                                                                      |                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|  remains of armature/core support |  location of wax to wax join |
|  core pin hole                    |  internal core support       |
|  core pin/chaplet                 |  patch                       |

Plate 80. *Pacing Horse with Saddle Cloth*, after Giambologna (Kunsthistorisches Museum, 5839) (top) photograph of sculpture; (bottom) annotated digitized radiograph.

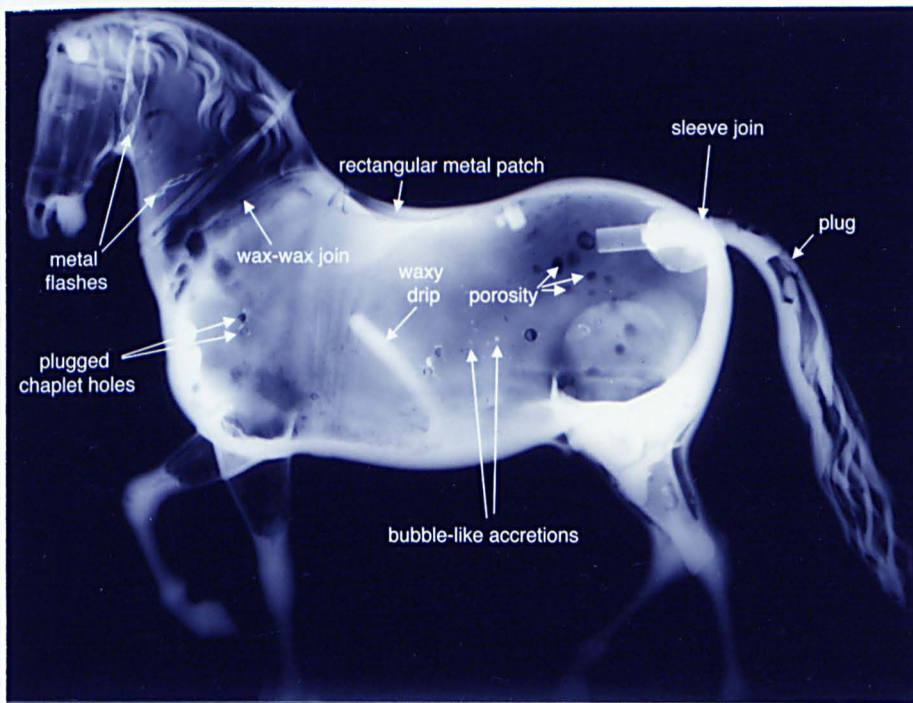


Plate 81. *Pacing Horse*, A. Susini (Victoria and Albert Museum, A.11-1924) (top) photograph of sculpture; (bottom) digitized annotated radiograph .



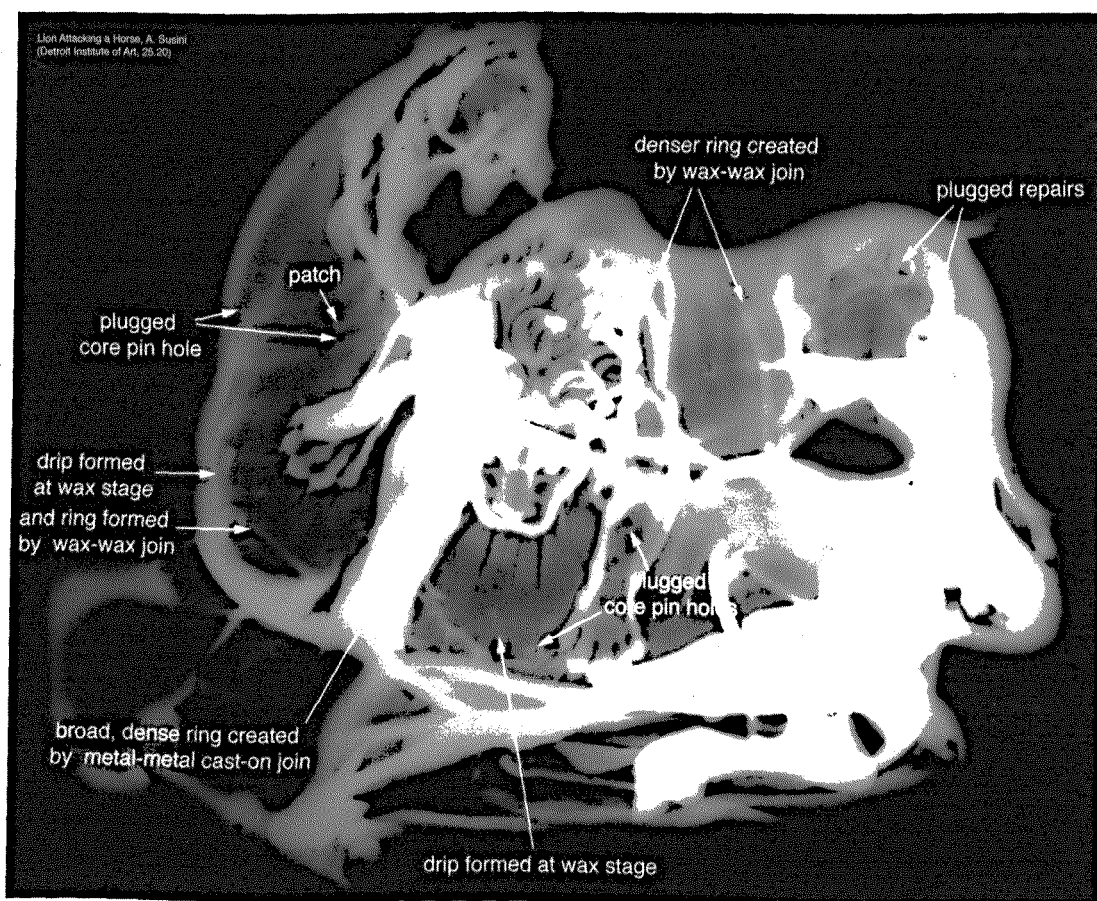


Plate 82. *Lion Attacking a Horse*, A. Susini (Detroit Insitute of Art, 25.20) (top) photograph of sculp-  
ture; (bottom) annotated digitized radiograph.

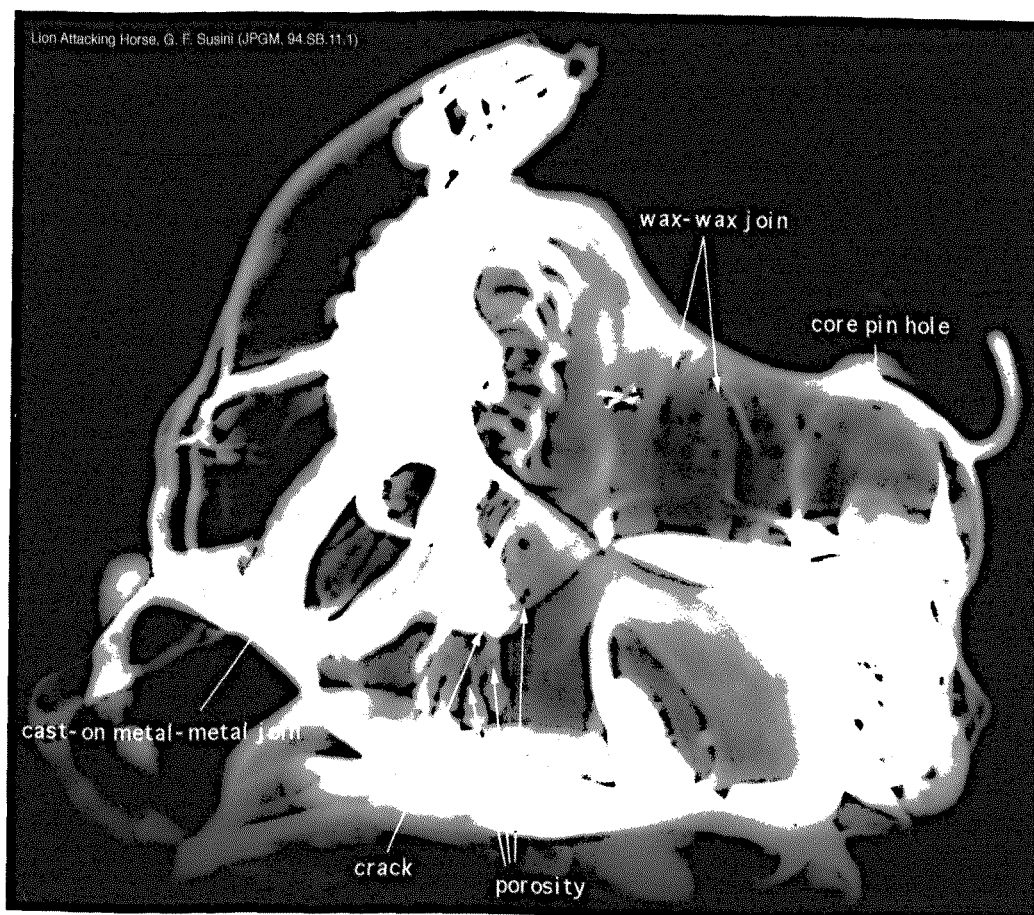


Plate 83. *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) (top) photograph of sculpture; (bottom) annotated digitized radiograph.



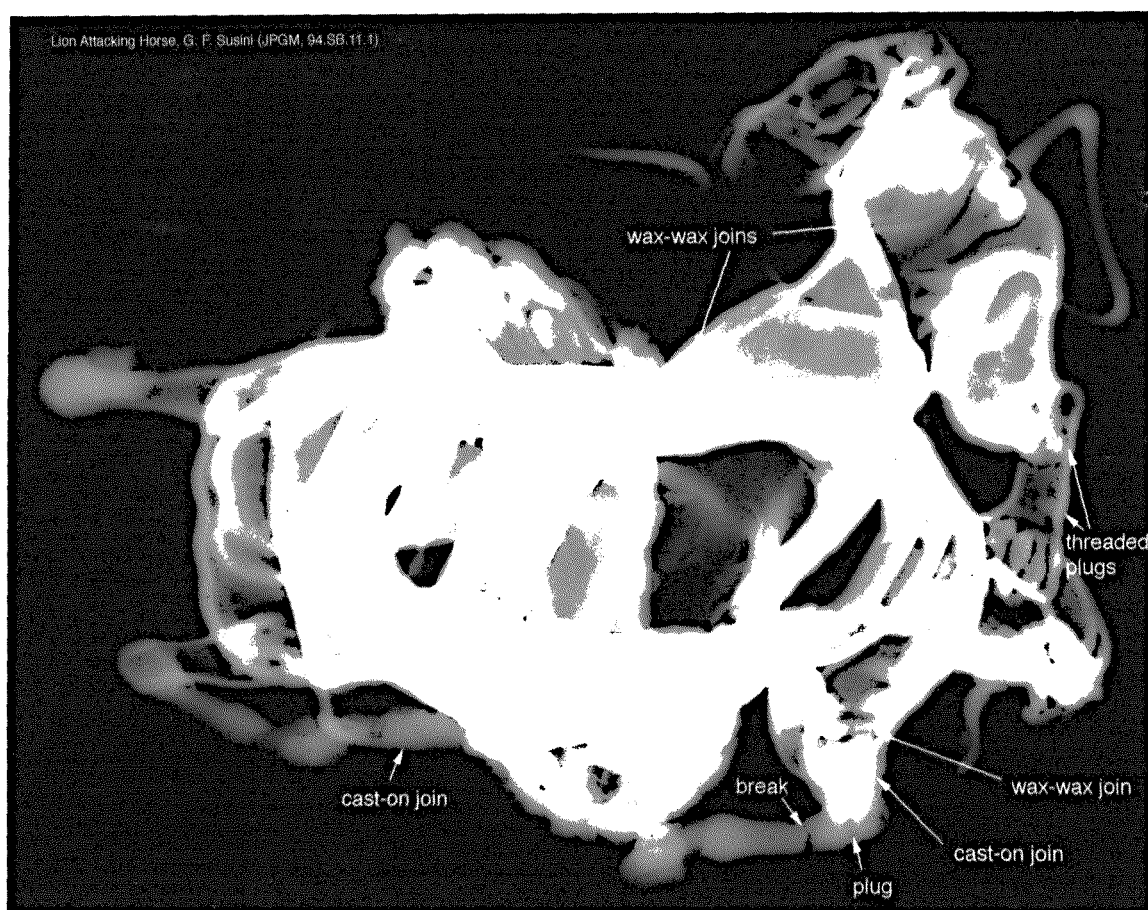


Plate 84. *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) (top) photograph of sculpture; (bottom) annotated digitized radiograph.

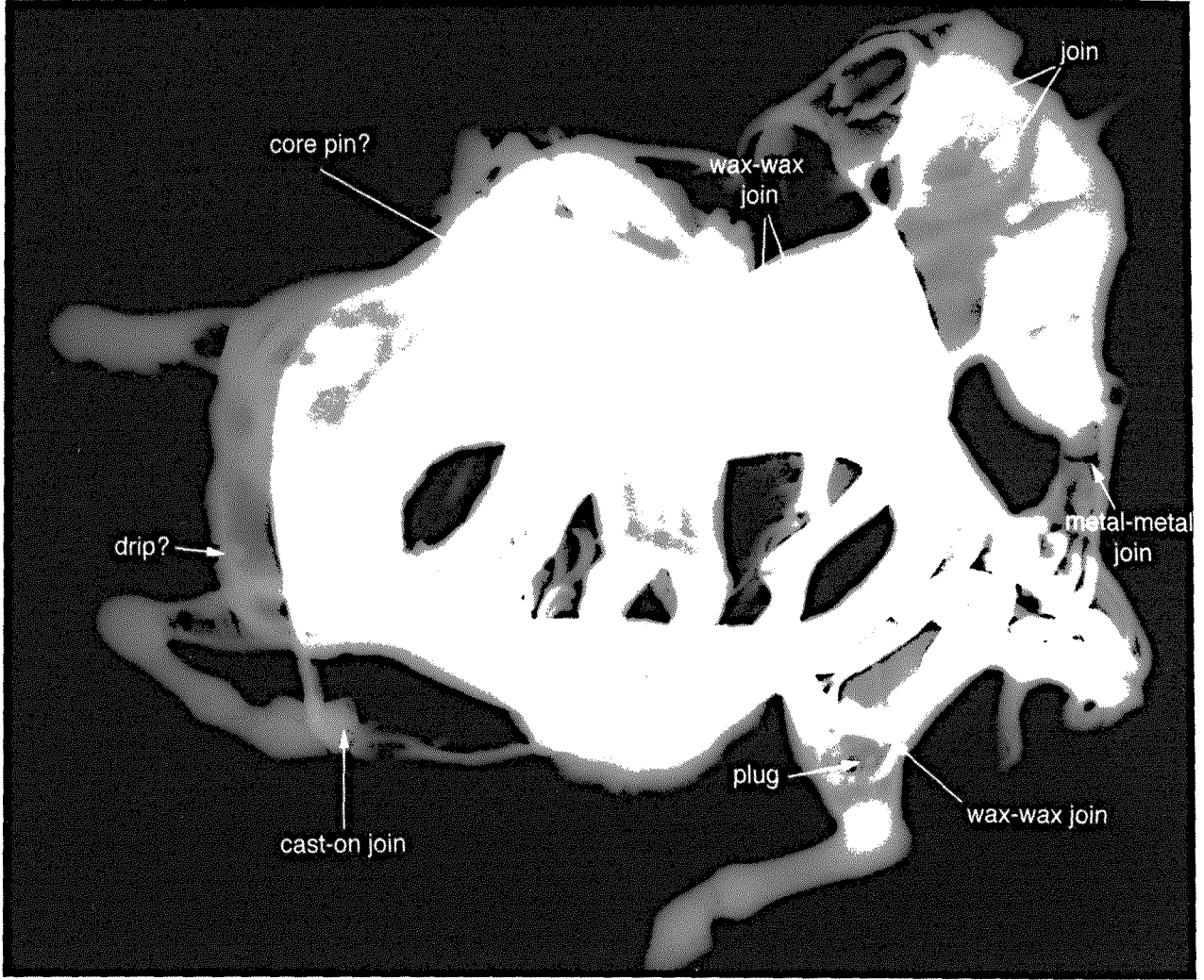
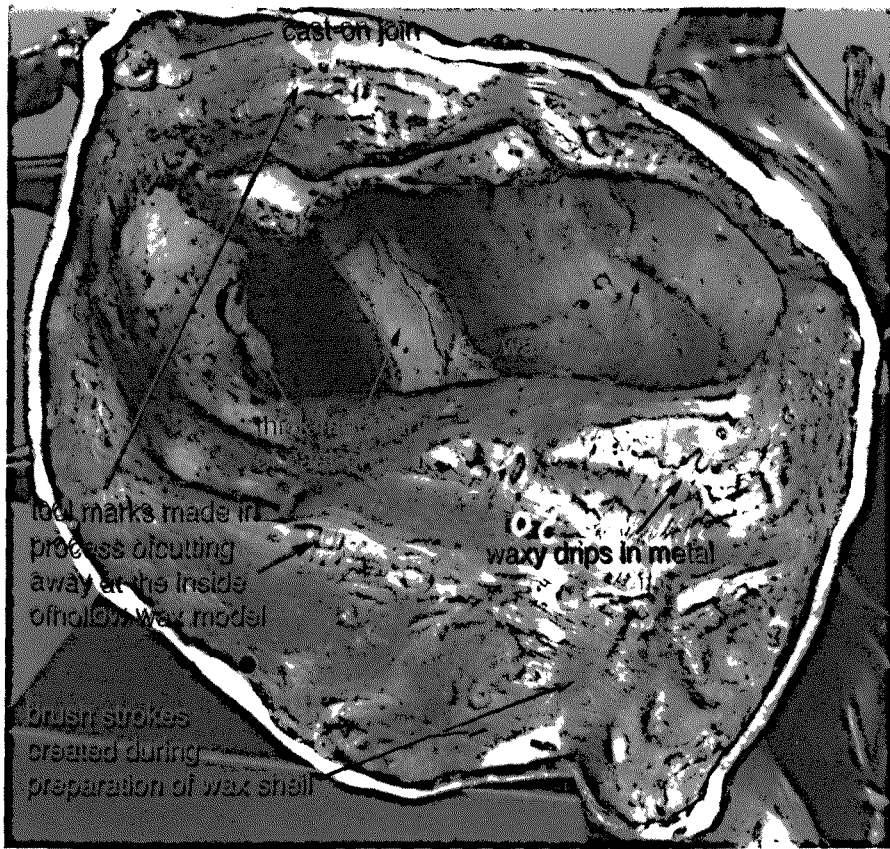


Plate 85. *Lion Attacking a Horse*, A. Susini (Detroit Institute of Art, 25.20) (top left) annotated detail of underside of base; (top right) detail of signature under Lion's rear paw; (bottom) annotated digitized radiograph.



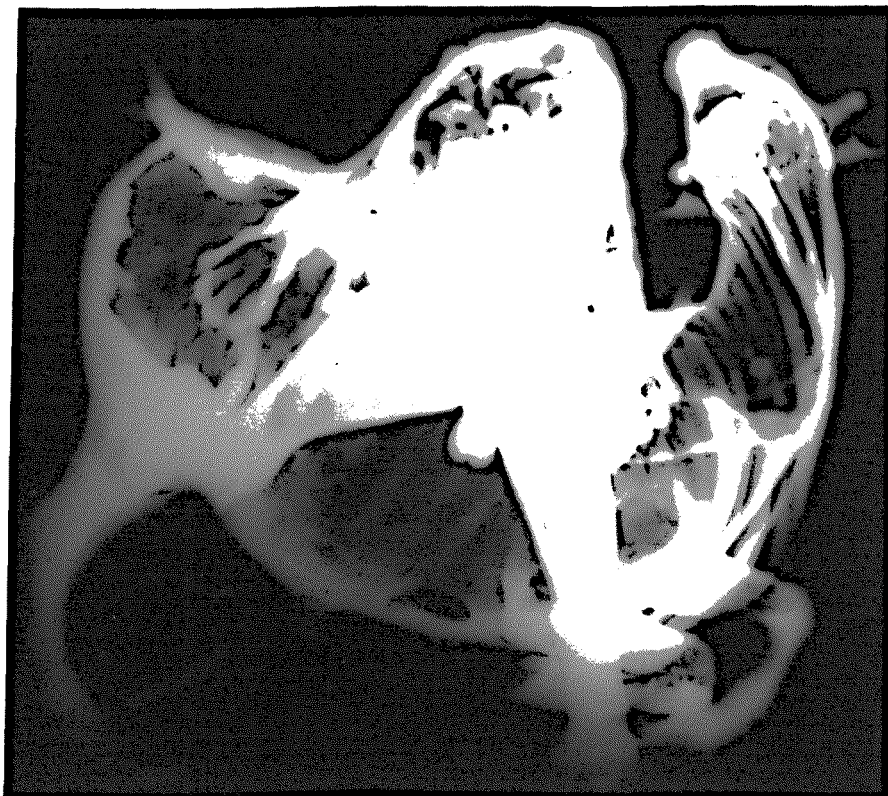


Plate 86. *Lion Attacking a Bull*, A Susini (Kunsthistorisches Museum, 5837) (top) photograph of sculpture; (bottom) annotated digitized radiograph.

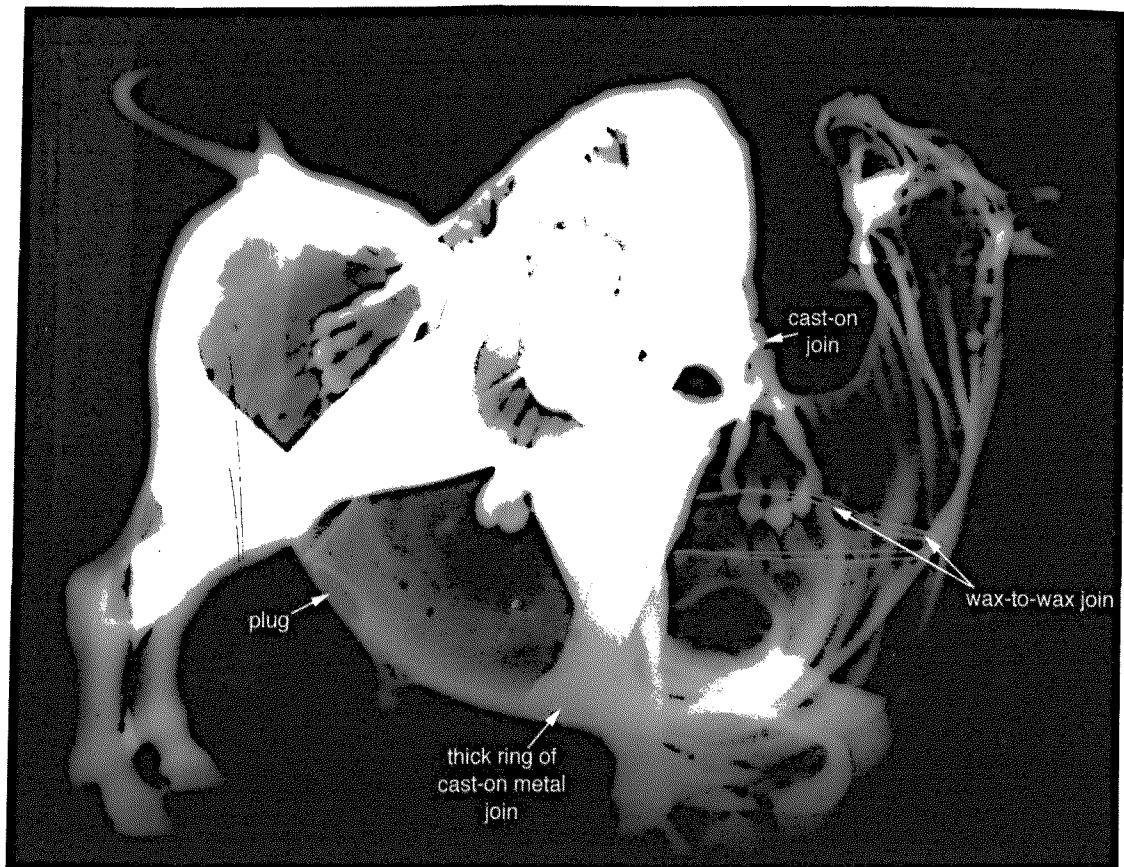
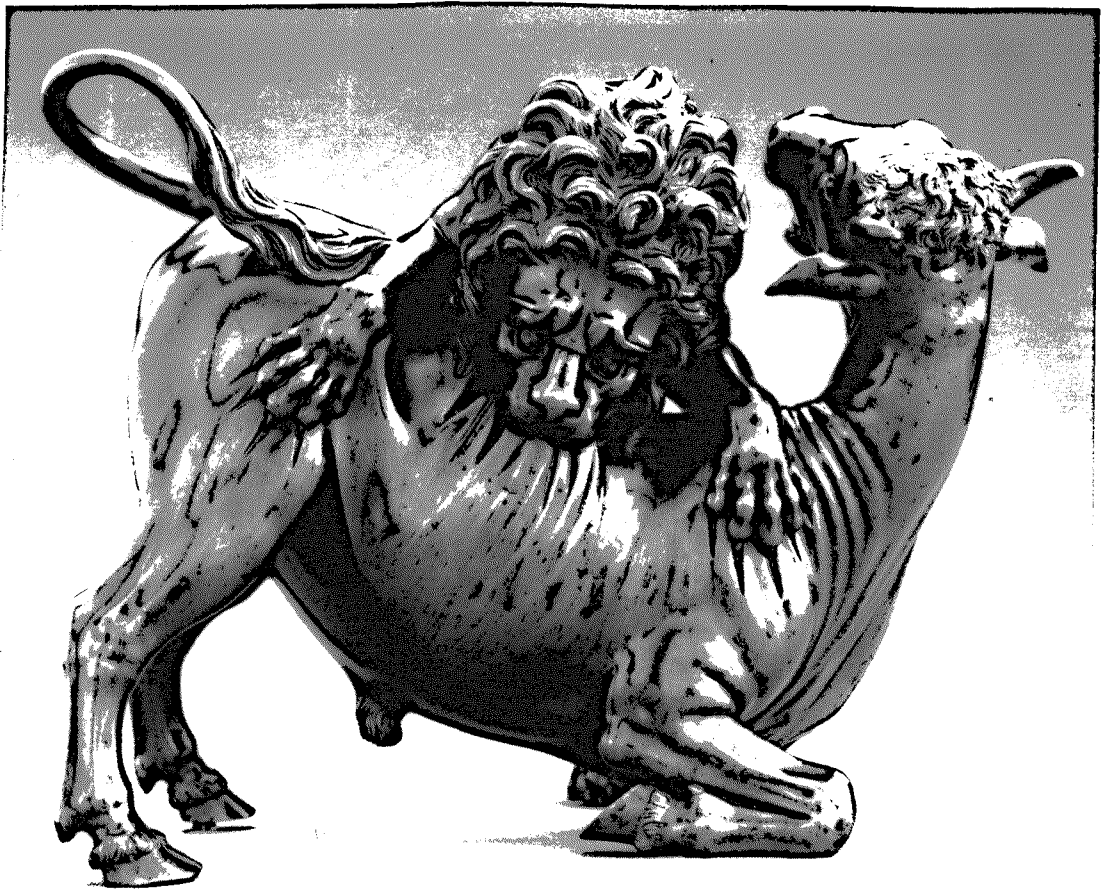


Plate 87. *Lion Attacking a Bull*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.2) (top) photograph of sculpture; (bottom) annotated digitized radiograph.



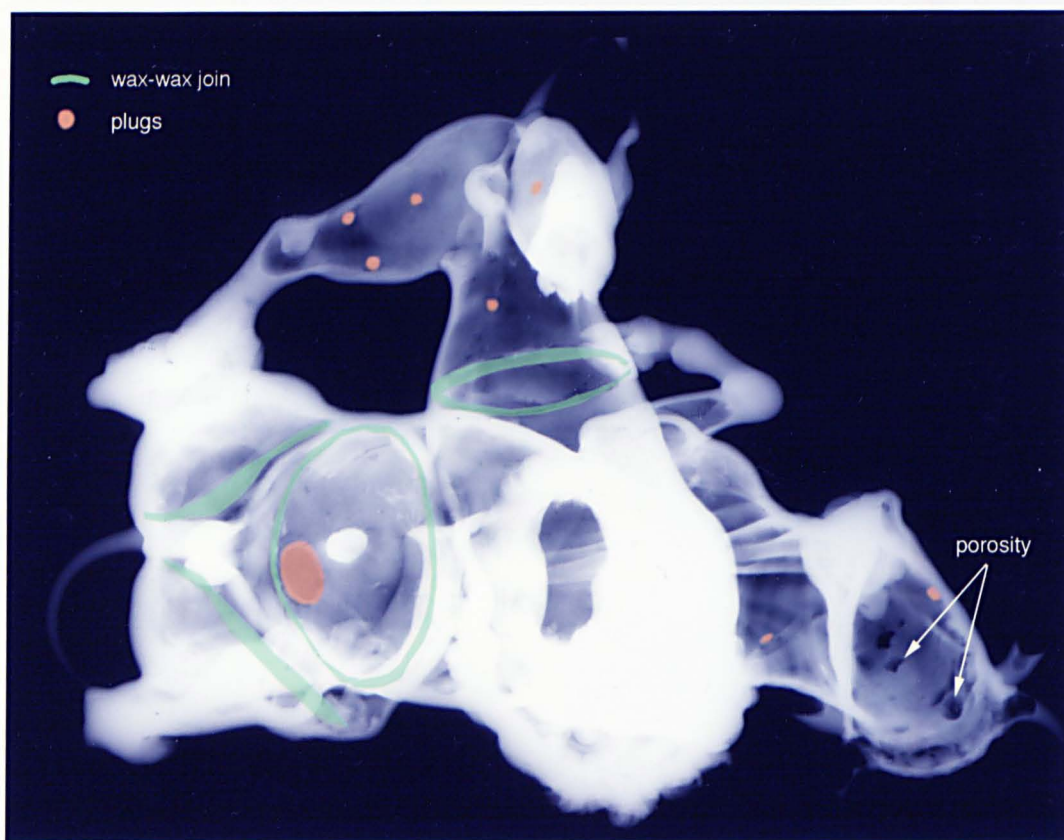
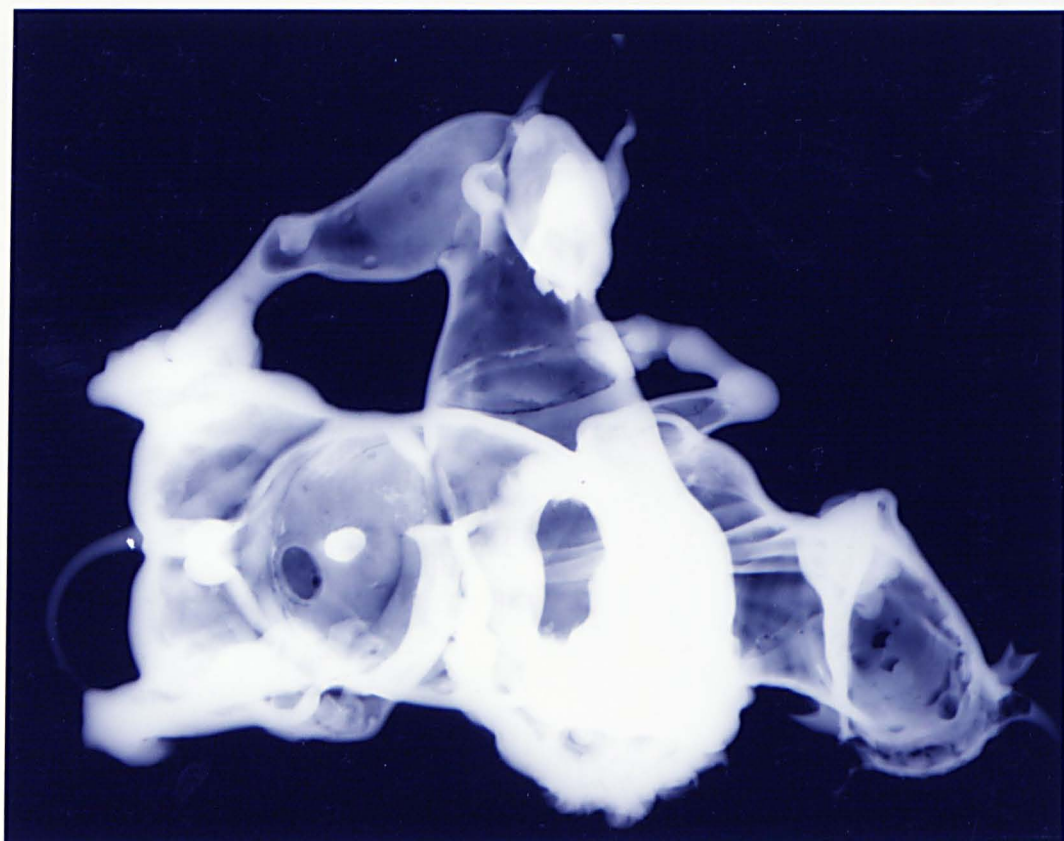


Plate 88. *Lion Attacking a Bull*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.2) (top and bottom) annotated digitized radiographs.





Plate 89. (Left) *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum, 90.SB.32) photograph of sculpture; (right) *Abduction of Helen by Paris*, G. F. Susini (Dresdener Skulpturensammlung) photograph of sculpture.



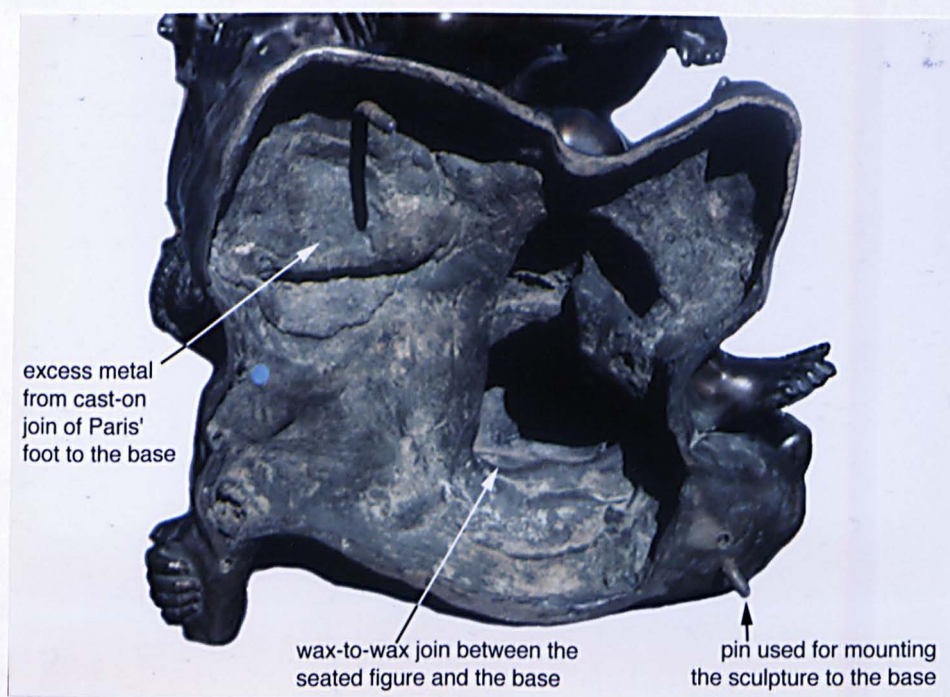


Plate 90. *Abduction of Helen by Paris*, G.F. Susini (J. Paul Getty Museum, 90.SB.32) (top) photograph of sculpture; (bottom) annotated detail of underside of base.





Plate 91. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum, 90.SB.32) radiograph of sculpture.





Plate 92. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum, 90.SB.32) radiograph of sculpture.





Plate 93. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum, 90.SB.32) (top left) detail of Helen's right hand; (top right) radiograph of Helen's right arm; (bottom) radiograph of the reclining figure's upper body.



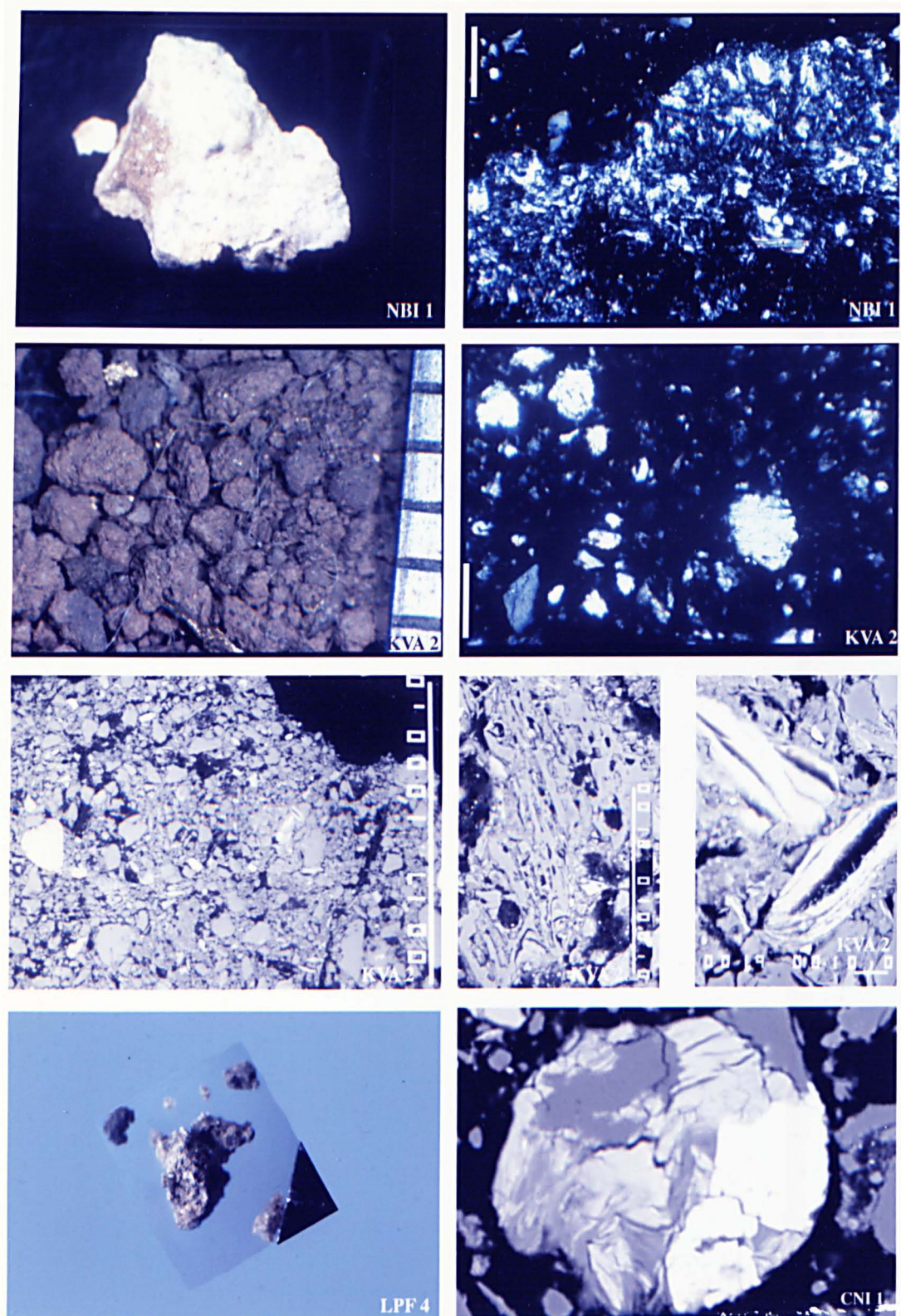


Plate 94. Photomicrographs of core samples.

Top row. *Neptune Fountain*, Giambologna (Bologna), left: microscope view; right: thin section under cross polars.

Second row. *Astronomy*, Giambologna (Kunsthistorisches Museum, 5874), left: stereo microscope view; right: thin section under cross polars.

Third row. *Astronomy*, Giambologna (Kunsthistorisches Museum, 5874), microprobe images;

Bottom row. Left: *Fortuna*, A. Susini (Louvre, OA 10598) microscope view; right: *Flying Mercury*, Giambologna (Capodimonte, 10784) microprobe image.



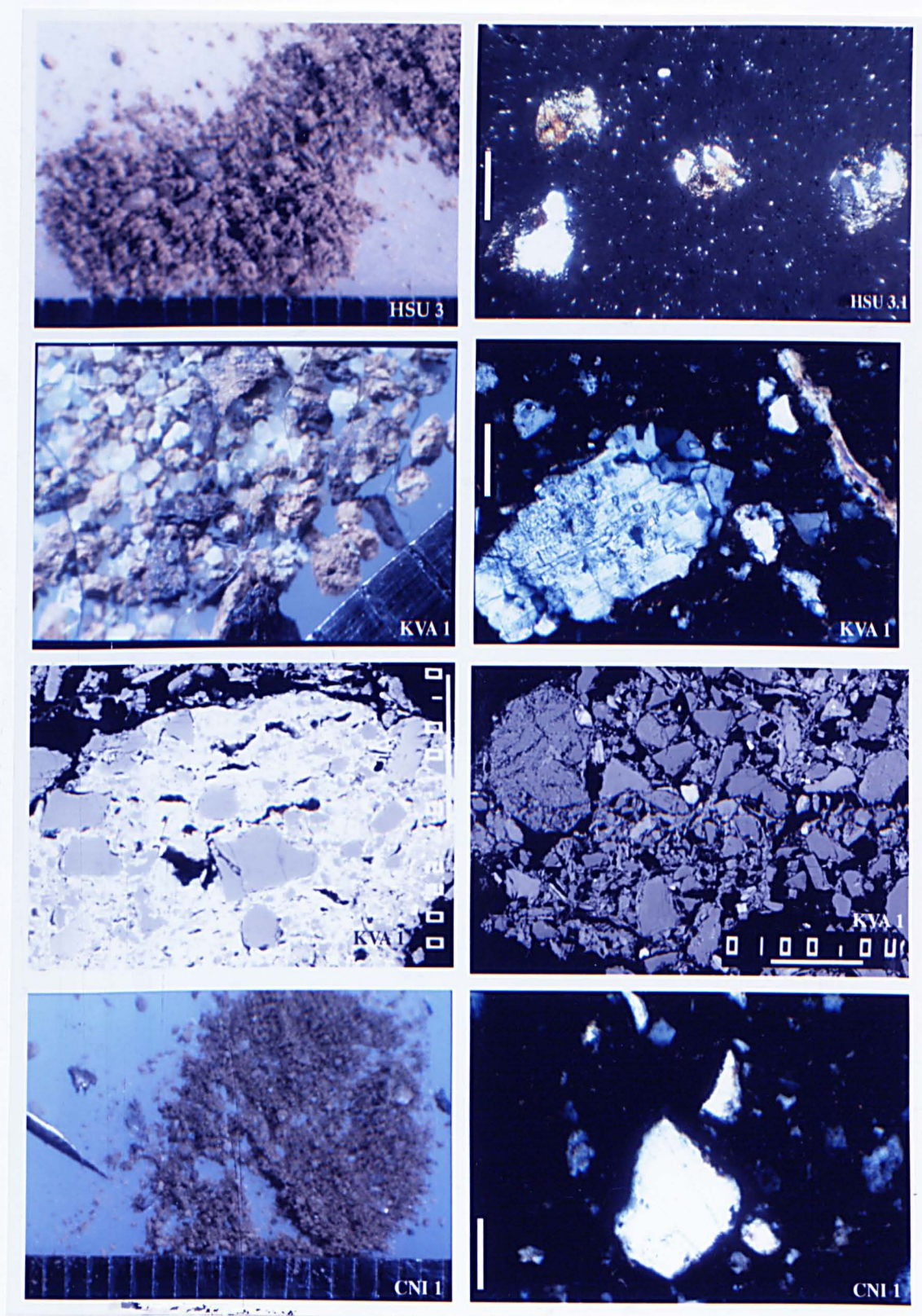


Plate 95. Photomicrographs of core samples.

Top row. *Crouching Venus*, after Giambologna (Huntington, 27.174), left: microscope view; right: thin section under cross polars.

Second row. *Flying Mercury*, Giambologna (Kunsthistorisches Museum, 5898), left: stereo microscope view; right: thin section under cross polars.

Third row. *Flying Mercury*, Giambologna (Kunsthistorisches Museum, 5898), microprobe images;

Bottom row: *Flying Mercury*, Giambologna (Capodimonte, 10784), left: microscope view; right: thin section under cross polars.



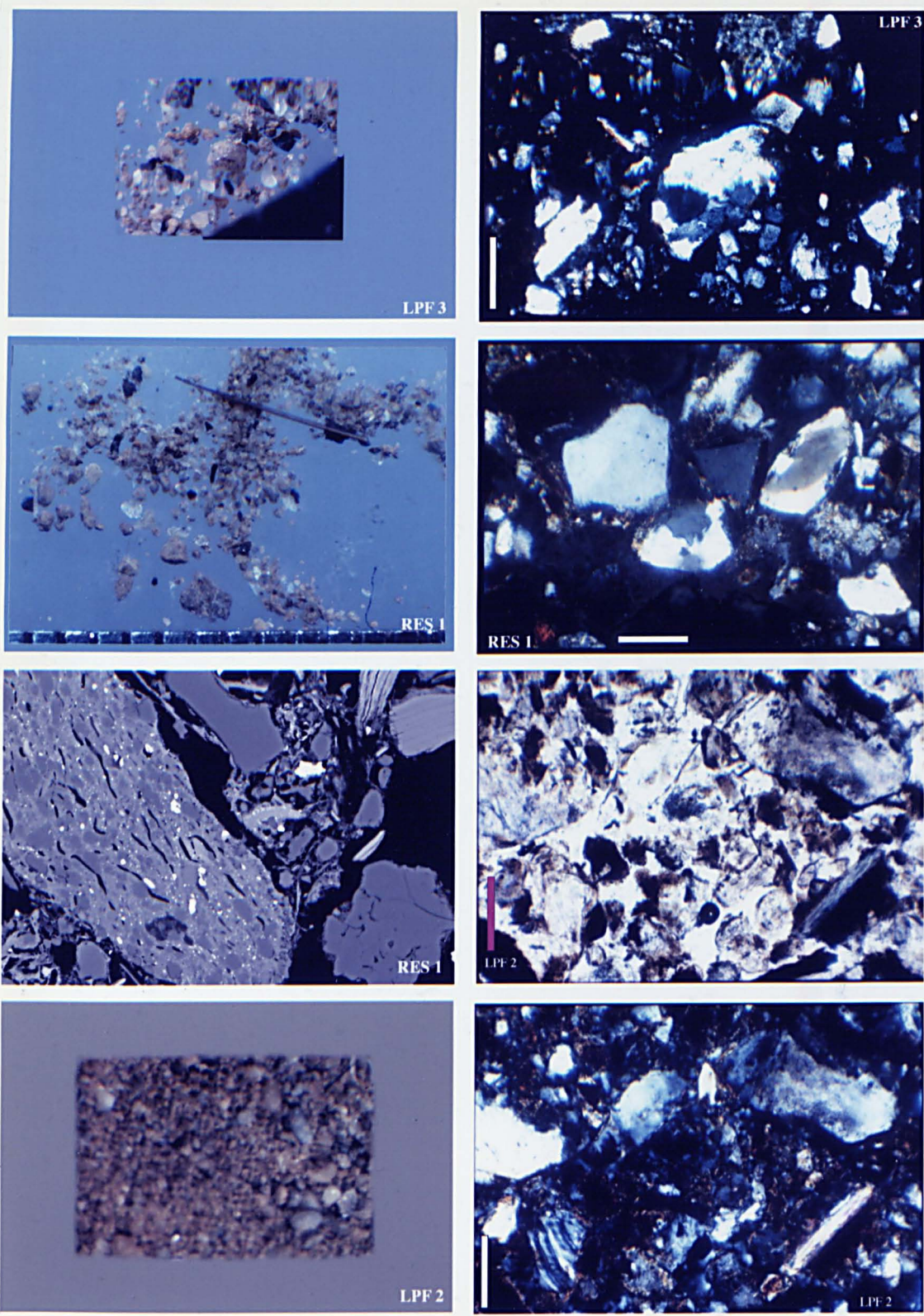


Plate 96. Photomicrographs of core samples.

Top row. *Mars*, A. Susini? (Louvre, OA 5439), left: microscope view; right: thin section under cross polars.

Second row. *Mars*, after Giambologna (Royal Museum of Scotland, 1960.910), left: microscope view; right: thin section under cross polars.

Third row. *Mars*, after Giambologna (Royal Museum of Scotland, 1960.910), left: microprobe image; right: thin section under polarized light.

Bottom row. *Morgante on Barrel*, attr. to Giambologna (Louvre, OA 8973), left: microscope view; right: thin section under cross polars.



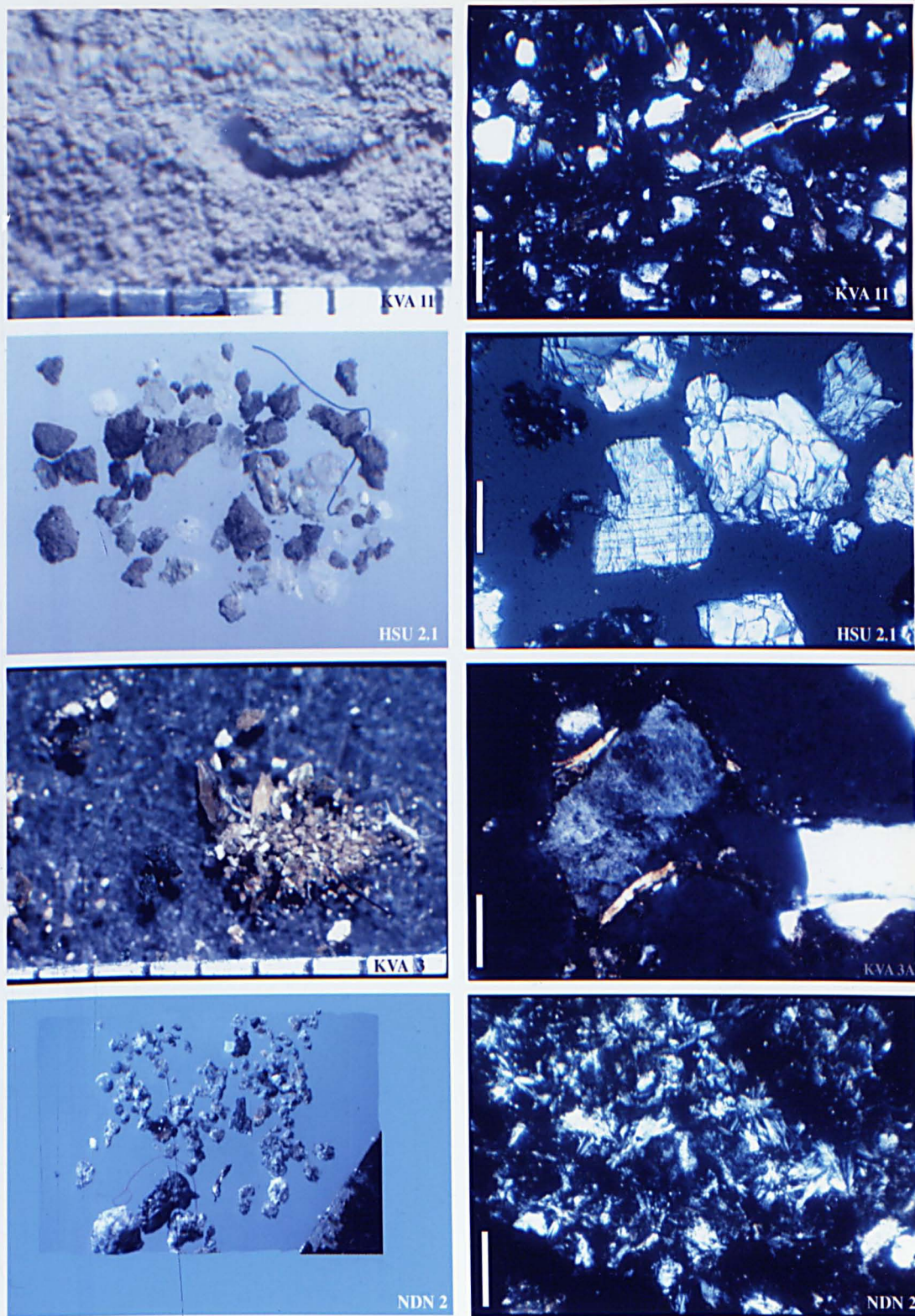


Plate 97. Photomicrographs of core samples.

Top row. *Three-figure Rape of a Sabine*, after Giambologna (Kunsthistorisches Museum, 5899), left: microscope view; right: thin section under cross polars.

Second row. *Nessus and Dejanira*, Giambologna (Huntington, 17.13), left: microscope view; right: thin section under cross polars.

Third row. *Nessus and Dejanira*, A. Susini (Kunsthistorisches Museum, 5847) investment material, left: microscope view; right: thin section under cross polars.

Bottom row. *Hercules and Lernaean Hydra*, attr. to F. Tacca (National Gallery of Ireland, 8121), left: microscope view; right: thin section under cross polars.



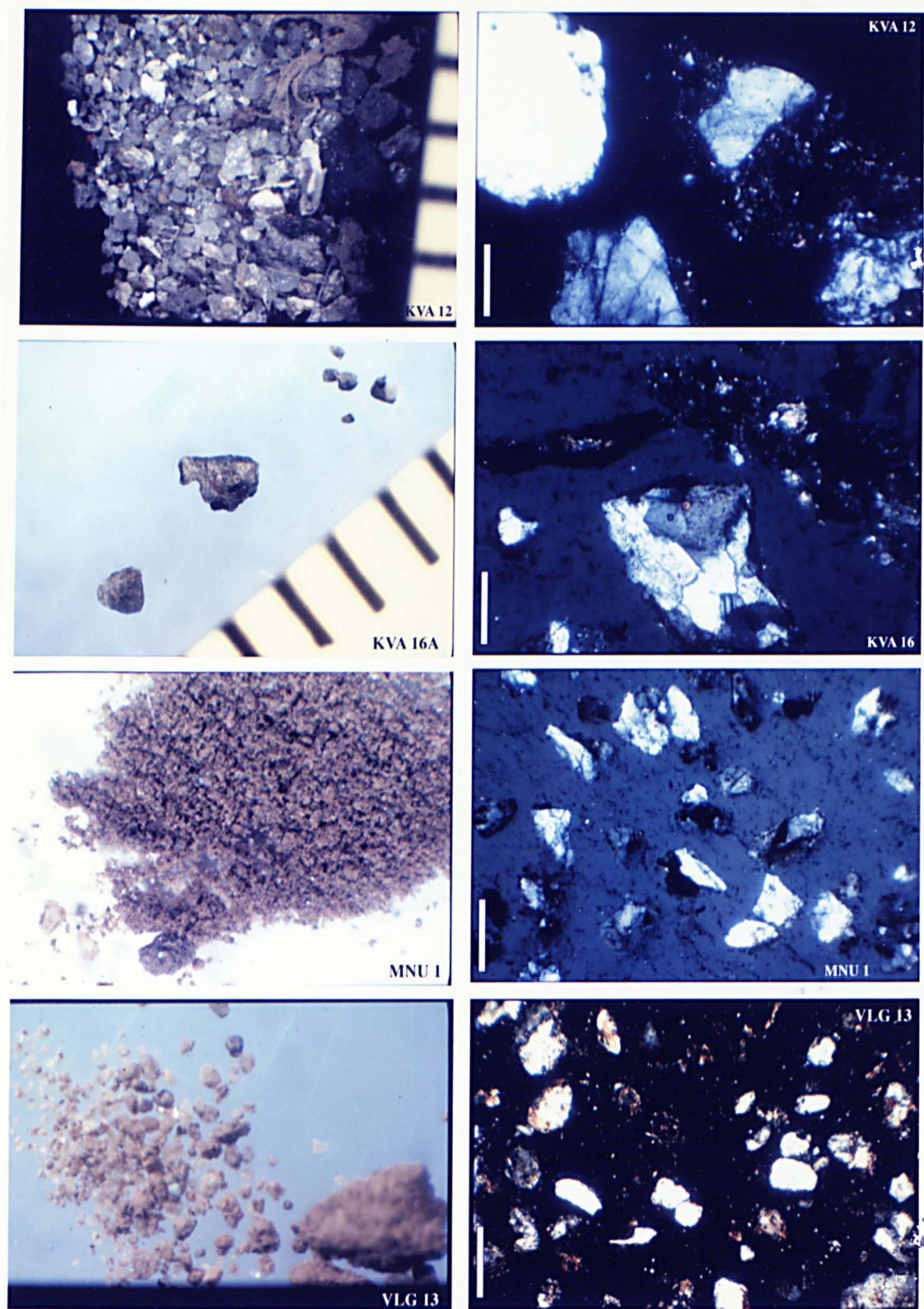


Plate 98. Photomicrographs of core samples.

Top row. *Hercules and Boar*, after Giambologna (Kunsthistorisches Museum, 5846), left: microscope view; right: thin section under cross polars.

Second row. *Hercules and Antaeus*, Antico (Kunsthistorisches Museum, 5767), left: microscope view; right: thin section under cross polars.

Third row. *St. John*, A. Susini (Metropolitan Museum of Art, 57.136.1), left: microscope view; right: thin section under cross polars.

Bottom row. *Pacing Horse*, Giambologna workshop (Victoria and Albert Museum, A.148-1910), left: microscope view; right: thin section under cross polars.



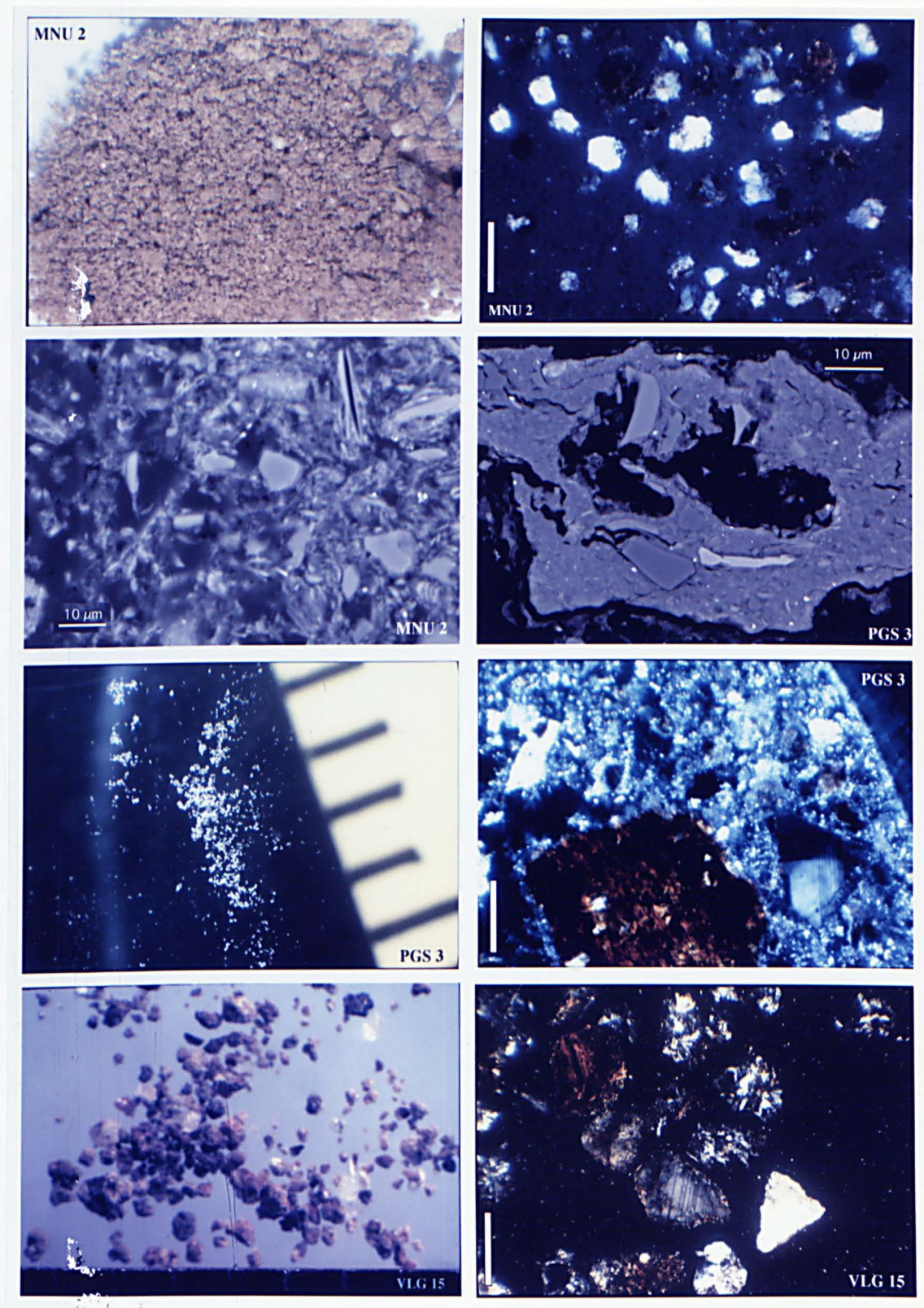


Plate 99. Photomicrographs of core samples.

Top row. *St. Matthew*, A. Susini after Giambologna (Metropolitan Museum of Art, 57.136.2), left: microscope view; right: thin section under cross polars.

Second row. Left: *St. Matthew*, A. Susini after Giambologna (Metropolitan Museum of Art, 57.136.2), microprobe image; right: *Pacing Horse with Cropped Mane*, after A. Susini (Pollock House, E 49 113 107), microprobe image.

Third row. *Pacing Horse with Cropped Mane*, after A. Susini (Pollock House, E 49 113 107), left: microscope view; right: thin section under cross polars.

Bottom row. *Pacing Horse*, A. Susini (Victoria and Albert Museum, A.11-1924), left: microscope view; right: thin section under cross polars.



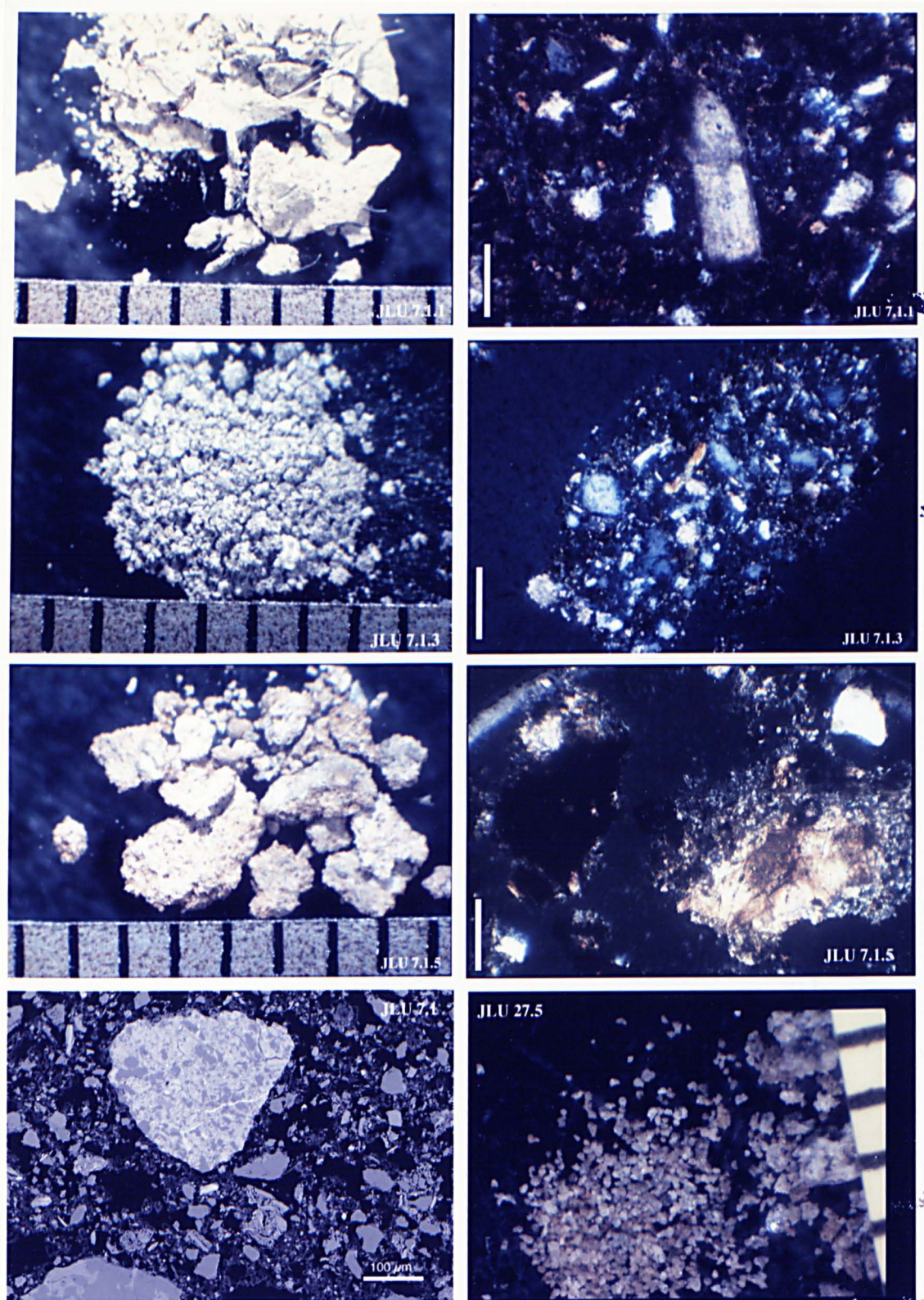


Plate 100. Photomicrographs of core samples.

Top row. *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) sample 1, left: microscope view; right: thin section under cross polars.

Second row. *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) sample 3, left: microscope view; right: thin section under cross polars.

Third row. *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) sample 5, left: microscope view; right: thin section under cross polars.

Bottom row. Left: *Lion Attacking a Horse*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.1) sample 5, microprobe image; right: *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32), microscope view.



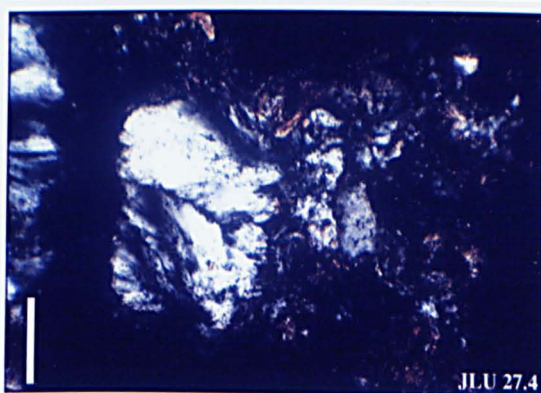
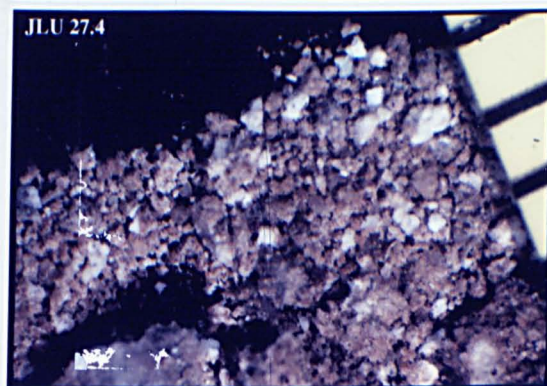
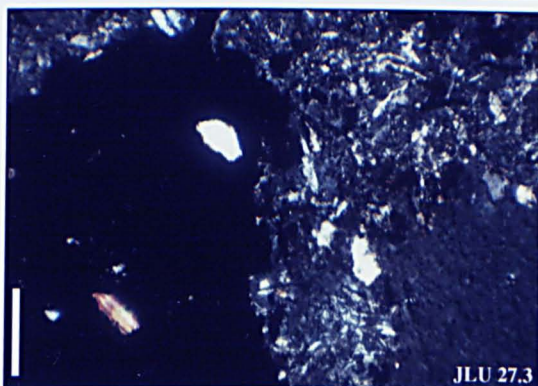
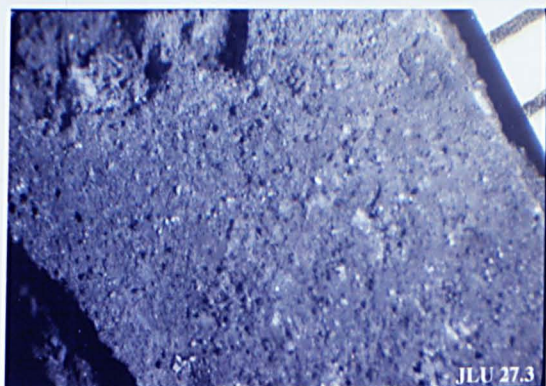
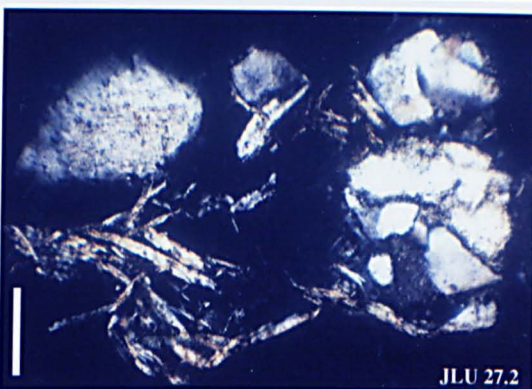
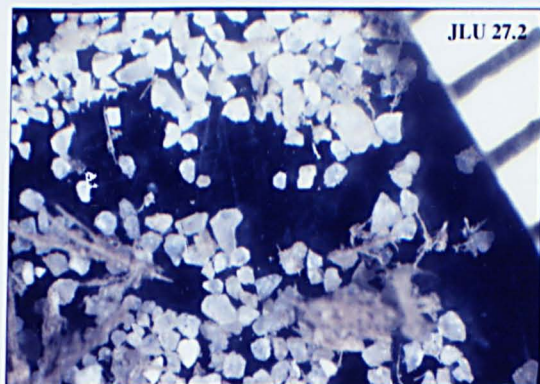
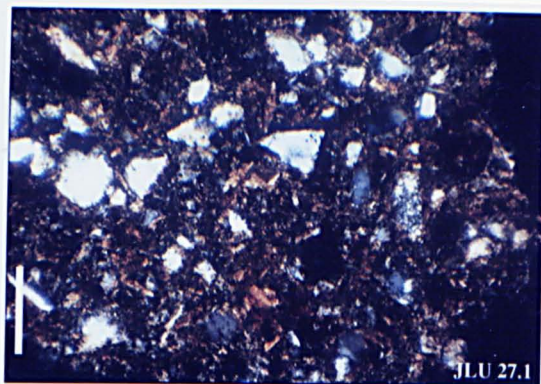
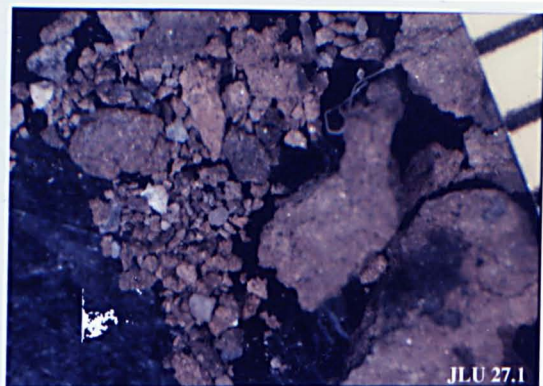


Plate 101. Photomicrographs of core samples.

Top row. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32), sample 1, left: microscope view; right: thin section under cross polars.

Second row. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32), sample 2, left: microscope view; right: thin section under cross polars.

Third row. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32), sample 3, left: microscope view; right: thin section under cross polars.

Bottom row. *Abduction of Helen by Paris*, G. F. Susini (J. Paul Getty Museum 90.SB.32), sample 4, left: microscope view; right: thin section under cross polars.



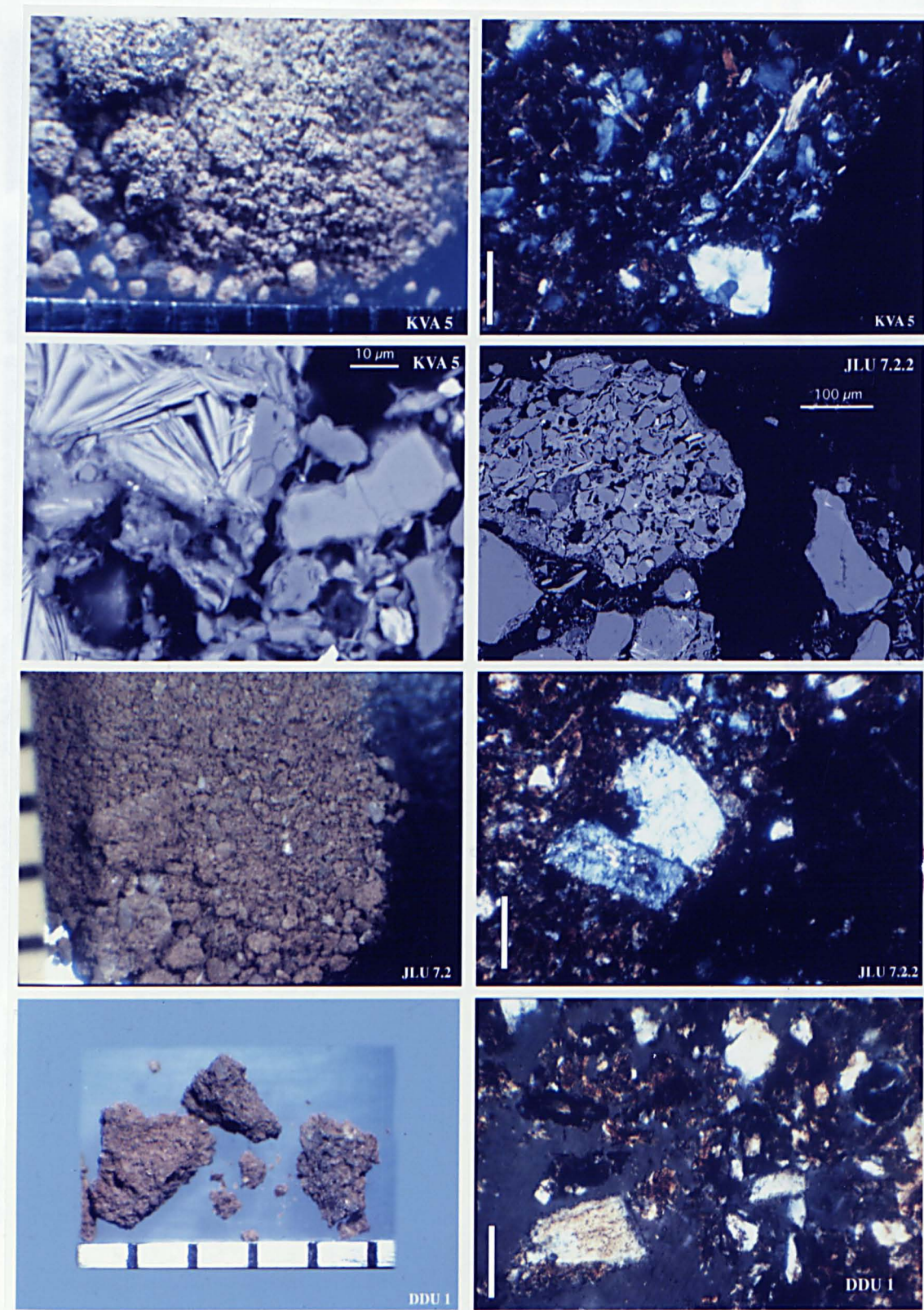


Plate 102. Photomicrographs of core samples.

Top row. *Lion Attacking a Bull*, A. Susini (Kunsthistorisches Museum, 5837), left: microscope view; right: thin section under cross polars.

Second row. Left: *Lion Attacking a Bull*, A. Susini (Kunsthistorisches Museum, 5837), microprobe image; right: *Lion Attacking a Bull*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.2), microprobe image.

Third row. *Lion Attacking a Bull*, G. F. Susini (J. Paul Getty Museum, 94.SB.11.2) sample 2, left: microscope view; right: thin section under cross polars.

Bottom row. *Lion Attacking a Horse*, A. Susini (Detroit Insitute of Art, 25.20), left: microscope view; right: thin section under cross polars.